NDSU DEPARTMENT OF COMPUTER SCIENCE
AND OPERATIONS RESEARCH

ANNUAL REPORT
2009-2010

Primary Contact:
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Faculty, Lecturers and Special Appointments Profiles

Four new tenure-track faculty (two replacements and two new positions) and a new half-time advisor/lecturer were hired during 2008-09. They started in 2009-10. The Department hired a new senior systems administrator to replace the retiring Lynn Thorp. Dr. John Martin retired in May, 2010 after thirty-seven years of service to NDSU.

Dr. Anne Denton, Associate Professor
PhD, University of Mainz, Germany 1996

Dr. Denton teaches courses in database management, bioinformatics, problem solving and foundations of computer science. Her research interests include data mining, bioinformatics, course management systems for distance education, and computational physics. Anne was promoted to Associate Professor with tenure effective August 16, 2009.

Dr. Hyunsook Do, Assistant Professor
PhD, University of Nebraska – Lincoln 2007

Dr. Do joined the faculty in the Fall of 2007. She teaches courses in networks, network security, and software engineering. Her research program concerns software engineering, particularly software testing, maintenance, and empirical methodologies.

Dr. Tariq King, Assistant Professor
PhD, Florida International University 2009

Dr. King joined our faculty in Fall 2009. He teaches Formal Methods for Software Development and Software Testing and Debugging. His research interests include software testing, autonomic and self-managing systems, model-driven software development, and software maintenance.

Dr. Wei Jin, Assistant Professor
PhD, University of Buffalo, 2008

Dr. Wei Jin joined the faculty in the Fall of 2008. She teaches courses in comparative languages and information retrieval. Her research interests focus on Text Mining, Information Retrieval and social Network analysis and Bioinformatics.

Dr. Jun Kong, Assistant Professor
PhD, University of Texas at Dallas, 2005

Dr. Kong is interested in visual modeling languages, model driven development and web-data interoperation. He teaches courses in operating systems and human computer interaction.

Dr. Juan Li, Assistant Professor
PhD, University of British Columbia, Vancouver Canada 2008

Dr. Juan Li joined the faculty in the Fall of 2008. She teaches courses in artificial intelligence, parallel and distributed simulations. Her research interests are in networking and distributed systems.

Dean Knudson, Associate Professor
PhD, Northwestern University,

Dr. Knudson is coordinator of the capstone program for bachelor of science students in CS and MIS. In this role he develops external sponsors for projects and mentors the student teams in project management. He teaches CSci 445, Capstone: Software Projects. Dr. Knudson has extensive experience working as a development executive for Microsoft and several other companies. He is a half-time Associate Professor.

Dr. Kenneth Magel, Professor and Associate Head
PhD, Brown University, 1977

Dr. Magel teaches a wide variety of courses, including software engineering, programming languages, and social implications of computing. His software engineering research activities explore what makes programming difficult and programs complex. Dr. Magel conducts seminars and courses in XML, C# and .net technologies. He coordinates the graduate programs in software engineering. Beginning July 1, 2007 he became Associate Head for the Department.

Dr. John Martin, Associate Professor and Undergraduate Coordinator
PhD, Rice University, 1971

Dr. Martin teaches computer science foundations, theoretical computer science and algorithm analysis. He is interested in formal languages and automata theory and computational complexity. Dr. Martin wrote the textbook Introduction to Languages and the Theory of Computation, which is widely adopted by universities around the country. He serves as freshman advisor, transfer advisor, and undergraduate coordinator for the department. Dr. Martin retired in June, 2010.

Dr. Kendall E. Nygard, Professor and Graduate Coordinator
PhD, Virginia Polytechnic Institute and State University, 1978

Dr. Nygard teaches courses in simulation, social implications of computing, mathematical modeling, network optimization, systems analysis and design, and software testing and maintenance. His research interests include software systems for military mission planning for cooperative control of autonomous aircraft systems, software agents, and geographic information systems (GIS) for school transportation. Primary sponsors of his research are the Air Force and Navy. Starting in summer, 2006 he became graduate coordinator for the Department.

Dr. William Perrizo, University Distinguished Professor
Ph.D., University of Minnesota, 1972

Dr. Perrizo teaches courses in database systems, data mining, bioinformatics, and networks. His research interests include database and information systems, data mining, data warehousing, distributed database systems, bioinformatics, precision agriculture, and remotely sensed data management and visualization. His research has been funded by many federal and private sources. Dr. Perrizo is a co-founder of the worldwide Virtual Conference on Bioinformatics. Dr. Perrizo has served in leadership roles for many conferences and on many boards and has a strong international reputation in research. In fall, 2007, he became one of the first seven University Distinguished Professors at NDSU, and in spring, 2008, was named Fargo-Moorhead Chamber of Commerce Professor

Dr. Saeed Salem, Assistant Professor
Ph.D., Rensselaer Polytechnic Institute, NY 2009

Dr. Salem joined the faculty Fall of 2009. He teaches courses in Bioinformatics and Data Minig. His research interests are in bioinformatics, biological networks, data mining and machine learning.

Dr. Brian M. Slator, Professor and Department Head
Ph.D., New Mexico State University, 1988

Dr. Slator teaches courses in artificial intelligence (AI), multimedia educational systems, computer science problem solving, and comparative languages. His research interests revolve around active environments for learning, including the use of software agents, case-based reasoning, knowledge representation, multimedia systems, distance education, synthetic environments, and multi-user educational games. Dr. Slator is a recipient of the Ernest L. Boyer International Award for Excellence in Teaching, Learning and Technology. Since fall, 2007, he has been Department Head.

Dr. Vasant Ubhaya, Professor
Ph.D., University of California, Berkeley, 1971

Dr. Ubhaya teaches courses in Discrete Mathematics, Algorithm Analysis, Performance Evaluation, Mathematical Programming, and Dynamic Programming. He does research in Algorithms, Optimization and Approximation, and publishes his results regularly in journals. He is often invited by professional societies to organize and chair sessions, and give talks at their meetings. His research has been supported by the National Science Foundation and EPSCoR.

Dr. Gursimran Walia, Assistant Professor
Ph.D., Mississippi State University, 2009

Dr. Walia joing the faculty in Fall of 2009. He teaches courses in Software Project Planning and Empirical Software Engineering. His research interests are empirical software engineering, psychology in software engineering, software quality, information assurance and software engineering for computer security.

Dr. Changhui Yan, Assistant Professor
Ph.D., Iowa State University, 2005

Dr. Yan joing the faculty in Spring of 2010. He teaches courses in Bioinformatics. His research interests developing computational methos and tools to assist biologists to investigate problems in the complex biological systems.

Dr. Weiyi (Max) Zhang, Assistant Professor
PhD, Arizona State University, 2007

Dr. Zhang joined the faculty in the Fall of 2007. He teaches courses in object oriented systems, and software engineering. His research interests are networking and bio-informatics.

LECTURERS

Joan Krush, Academic Advisor/ Lecturer
MA, University of Iowa

Mrs. Krush joined the faculty Fall 2009 as a halftime lecturer and advisor. Joan has a MA in student development in Postsecondary Education. She will assist our students with their advising needs, lead student recuriting, and teach sections of University 189.

Ms. Dana Johnson, Adjunct Senior Lecturer
MS, University of Denver, 1980

Ms. Johnson retired following the fall, 2005 semester, but continues to teach distance education courses for the Department from her mansion in Colorado.

Dr. Sameer Abufardeh, Lecturer
Phd, North Dakota State University, 2009

Dr.. Abufardeh teaches courses in Java. His research interest has been in the area of requirements engineering. He received his Ph.D. from the Department in fall, 2008.

Richard Rummelt, Senior Lecturer
MS, Grand Valley State University, Michigan, 2005

Mr. Rummelt teaches courses in Java and the advanced Visual Basic .NET courses. His research interest has been in the area of requirements engineering. He is an active Ph.D. student. Starting in spring, 2006, he is the faculty advisor for our new chapter of UPE, the Computer Science Honor Society. Starting in spring, 2009, Richard became the ACM Student Chapter advisor. Mr. Rummelt was promoted to Senior Lecturer starting August, 2009.

Dr. Oksana Myronvych, Lecturer
Phd, North Dakota State University 2010

Mrs. Myronovych teaches courses in Java and the advanced Visual Basic .NET courses. Her research interest has been in the area of requirements engineering. She received a Ph.D. in 2009. She is currently the Treasurer/Secretary for the student chapter of UPE, the Computer Science Honor Society.

STAFF

Adam Helsene, Systems Administrator

Adam joined the department Fall of 2009. He administers department systems and configurations for the departmental instructional laboratories.

Carole Huber, Administrative Assistant

Ms. Huber coordinates the administrative functions of the department. This includes managing research and appropriated funds, purchasing and accounts payable. She is the contact person for all student employment applications, time-slips, and tuition waivers. She coordinates all Teaching/Research/Grading positions for the department.

Betty Opheim,
Part-time Administrative Secretary

Ms. Opheim carries out inventory, equipment and software support functions and assists in back-up office support.

Stephanie Sculthorp,
Administrative Secretary

Ms. Sculthorp carries out office support functions, including data development, reporting, survey work, and assisting students and faculty.

Otto Borchert
Programmer Analyst
MS, North Dakota State University, 2008

Mr. Otto Borchert began his Programmer Analyst position August 2007. His duties include educational games, research and software development.

Guy Hokanson
Programmer Analyst

Mr. Guy Hokanson began his Programmer Analyst position August 2007. His duties include educational games, research and software development.

I. Goals/accomplishments for the current year

Major Accomplishments for the Department in 2009-10

1. The Department continued funded activities which received $1,095,271. New grants during this year totaled $580,090. Altogether, twelve faculty were involved in grants during this year;
2. There were 2 Graduate Certificates in Software Engineering, 19 M.S. in Computer Science, 5 M.S. in Software Engineering, 1 Ph.D. in Computer Science, and 1 Ph.D. in Software Engineering graduated during this year;
3. We have 197 graduate students and 253 undergraduate majors;
4. We conducted a comprehensive review of our B.S. degree and agreed upon several substantive changes including the elimination of three courses and the addition of three new courses. We will try to get approval for these changes during 2010-11;
5. We began the entirely distance education Master of Software Engineering program. Six students are accepted for fall, 2010.

A. INSTRUCTION AND STUDENT SUCCESS

Exit Interviews

During 2009-10, the Department continued to interview graduating seniors. Each senior was asked to fill out an online questionnaire.

Capstone Projects:

The 2009-10 academic year marked the eighth year in which capstone projects for seniors in CS have been sponsored by external constituencies, primarily private corporations. The intent is to help students develop a strong background in real software development issues, learn software project management skills, and develop the ability to work in teams. Successful student teams use many of the skills they learned in earlier Computer Science courses. The sponsors for spring semester 2010 are as follows:

3M
Agri-ImaGIS
Air Academy Association
ATC
ATK
Border Thinking
CNSE
CSM
IBM
Intelligent Insites
Lighthouse

NISC
Phoenix International
Polaris
Rockwell Collins

Capstone Project Student Survey – Results for Spring 2010

Knowledge in Scientific and Technical Areas: Did you have enough background from your class work to be able to learn what you needed to in order to make a good contribution to your project? (If not, should something be added to the curriculum?)

1. O	2. O	3. O	4. O	5. O
Very Good	Good	Marginal	Poor	N/A
18	**25**	**9**	**2**	**2**

Teamwork/Dedication to task: Did your team members work well together and show a dedication to completing your project on time and with high quality?

1. O	2. O	3. O	4. O	N/A O
Very Good	Good	Marginal	Poor	N/A
17	**19**	**11**	**8**	**2**

Communication/Status Reporting: How good were communications with your mentor and sponsor throughout the semester?

1. O	2. O	3. O	4. O	N/A O
Very Good	Good	Marginal	Poor	N/A
36	**11**	**5**	**4**	**1**

Capstone Project Value: Overall, what is your opinion of the value of the NDSU Computer Science Capstone Program?

1. O	2. O	3. O	4. O	N/A O
Very Good	Good	Marginal	Poor	N/A
33	**18**	**4**	**1**	**1**

Project Definition: Was your project appropriate for a Capstone project?

1. O	2. O	3. O	4. O	N/A O
Very High	High	Marginal	Low	N/A
25	**24**	**3**	**3**	**1**

Schedule Conflicts: Did your team have many problems getting together for meetings among yourselves or with the mentor/sponsor? (What would you recommend to help deal with issues in this area?)

1. O	2. O	3. O	4. O	N/A O
Very Many	Many	Some	None	N/A
3	8	27	13	4

Summary tabulation of the Project Sponsor Survey, Compiled May, 2010

2010 Projects	Opinion of Capstone Program*	Willing to sponsor next year	Final Grade from Sponsor	Comments - mine	Comments - Sponsor/Mentor
3M	Very Good	Likely	A-	Another great project for 3M	"All (students) did a great job." 3M would like to see longer projects (e.g. two semesters) so more complex problems can be tackled.
Agri_ImaGIS				Sponsor did not complete the survey but the project was not good. One member had to drop out half way through, which hurt the project.	
Air Academy Association	Good	Likely	B+	New sponsor - they are trying to figure out how to hire some of the team to work for them over the summer	"Very good way to get real-world project experience."
ATC	Very Good	Likely	A	New sponsor - great team that delivered a great project	"Great experience." If we have the right project we would be glad to do this again.
ATK	Good	Likely	A	This was an extension of last year's project and it went very well.	"very adaptive -- well prepared -- all team members put forth a good effort" High likelyhood that ATK will want yet another update to the tool next year. If not, they will go with a new project.
Bolder Thinking	Very Good	For Sure	A+	New sponsor - startup company, team did a very nice job	"They did a great job!"
CNSE			A	The sponsor's father died just after final presentations he so didn't get a chance to officially comment, unofficially he was very happy with his project and will likely sponsor a project next year.	

CSM	Very Good	Likely	C	The team did not work well together and kept waiting for the other person to do system integration.	"As challenging as this project was, it proved why students participating in a Capstone project is so critical. They learned a wealth of lessons and knowledge that take many individuals years in the real workforce to learn and understand."
IBM	Very Good	For Sure	A-	Complex project done very well	"Great opportunity for both IBM and the students. Looking forward to working with future capstone teams."
Intelligent Insites	Good	Likely	C-	Weak team that also had no leader, didn't get much done	"Great opportunity for students to learn. Managed well. Student motivation is important for project success."
Lighthouse1	Good	Likely	C-	Team was blocked for a long time and did not manage to work around issues.	"the capstone projects are a good idea for both students and participating companies, even though we didn't achieve the desired outcome."
NISC	Good	For Sure	A	Sponsor loves our program and was very impressed with the project and team.	"Excellent work! Project team worked well together." "This was without a doubt the best Capstone team and project that I have ever been a part of. The overall experience was fantastic!" "We love being a part of this project, and look forward to working with

					NDSU every year."
Phoenix			A	Sponsor did not use the official forms to evaluate his project but it is clear he thinks a lot of the program and wants to sponsor a project again next year as he has done for the past 6 years.	"went very well -- (product) will be used -- very nice!"
Polaris	Very Good	For Sure	A-	Another great project	"This is going to be a wonderful addition to our tool set here at Polaris." "I continue to be impressed with the projects that the students are able to deliver. This is an awesome program."
Rockwell	Very Good	Likely	A+	Very good project that created a great tool for Rockwell Collins.	"I thought this was a great project and would like to thank the team of students and Dean Knudson for the opportunity to work with NDSU." The student team really impressed the sponsor and his team at Rockwell Collins.
	7 VG, 5 G				

Sample CS Capstone Projects
2005 - 2009

2005

Simulate a Radio Interface

The team built a message simulator to test radio communications with munitions systems. The simulator used RS232 communications and ran on PCs. It included a user interface that allowed users to construct and send messages as well as log and display all message traffic. The system included support for error checking (ACK/NAK, CRC) of messages. The interface could be configured for baud rate, com port, parity, # of bits, # stop bits, etc.

Election Results Visualization
This team built a system for use on the website of a news/communication company. The system displays election results in a visual manner and supports selecting from multiple race results. Results for a county can be displayed on a precinct level map in a color coded manner. Color shading was used to indicate results (e.g. red to white to blue shading for a two party race, white to dark green for a yes/no referendum) and actual vote counts are also shown for each precinct as that precinct is scrolled over.

Automated Test Suite for Denial of Service and Intrusion Attacks
This team built an extensible framework for an automated suite of test cases that ran on a Linux platform and simulated Denial of Service and Intrusion attacks. The tool included a GUI interface to select and run tests. Around 50 different network attacks were included with the system. An audit log and error log are produced as the system runs.

Automation Data Collection
This team designed data collection code to gather information from equipment on a manufacturing floor. A baseline group of PLC code samples was produced for the collection of data. Code timing (infeed, cycle, outfeed, idle, etc.) and error routines was developed.

Factory Floor User Interface
This team designed and prototyped a user interface that presented live and historical information from the equipment on a manufacturing floor. The design was for a web based solution that used a SQL database that contained the data related to machine performance.

Proposal and Job Setup System
This team designed and developed a PC based sales proposal and job setup program for a heating company that allows the comfort consultant to efficiently and effectively produce a "job specific" price quote for the customer on the first appointment. The system included BTU calculations and furnace suggestions as well as pictorial tours showing what is involved in a furnace replacement. A job set-up document can also be produced immediately upon the closure of a sale. A database keeps track of all prices, eliminating confusion. The database also helps with sales management tracking.

Test Prioritization
This team developed processes, reporting and supporting utilities around code coverage and test prioritization tools (from an internal company research team) that provided the best test coverage for each software check-in. There was a base-line component that would run nightly and run each test, collect coverage data and save traces for each test. The developer's side included a Windows application for automatically selecting the tests a developer should run.

Ensuring Data Integrity
This team developed a program that would run nightly to do integrity checks of critical manufacturing data. The Engineering (relational) and Manufacturing (Oracle) databases previously needed to be periodically manually verified to be in sync.

Web-based Tutorial/Learning Tool
This team developed an on-line tutorial and training tool for use in a university setting. The tutorial was based on policies and procedures for safe computing practices. A database of questions was also created with questions randomly selected for an on-line quiz. The results of the quiz could be emailed to the person who took the test and a teacher or supervisor.

Identity Preservation in a Grain Mill
This team developed a system to track the product (grain) throughout the growing portion of the process. The ability to add and update all aspects of field information (plant and field variables, chemicals applied, harvest information) can be managed on-line by direct farmer input or by a system administrator. Data can be exported to Excel spreadsheets and all updates and inserts into the database are tracked. A website was established and set up for use by the cooperative.

Web-based Survey Software
This team developed a web-based application that runs on top of a survey processing engine and allows users to create and maintain surveys for use on their web-sites. Multiple surveys and various kinds of questions can be created and edited (e.g. multiple choice, drop down choice, text choice, file choice). The survey processing engine was previously built by the sponsoring company.

Code Generation Utility
This team developed a utility that auto-generates C# code based on code that exists within a company proprietary prototype development environment today. The system reviews C# code and associated metadata then analyzes it to see what areas can be generated, rather than having to have developers create it. For example, it will generate the required business entities and database mappings.

2006

Web-based Survey Tool
Web based survey tool to collect and manage SEI training evaluations for one company as well as to be used for vendor surveys for another company

Intrusion Monitoring System
Development of host based intrusion monitoring and prevention application software for IBM eServer iSeries

Web-based File Viewer
Develop a web based file viewer to be able to view data from old Cobol applications

Marketing Study for New Product Offering
Perform a marketing study on new product offerings to create a Managed Services offering that includes the areas of proactive network monitoring, data backup, security and trending.

Sarbanes-Oxley Critical Function Auditing Tool
Critical Function Auditing Tool - design database tables, develop an admin tool to maintain and create the data for the tables, define and transfer the security info for users from current system to Oracle, create a tool using VB.Net to administer this system

Web-based Employee Directory
Develop a web based employee directory that can find employees in a hierarchy list, view the list, add picture IDs, and update Active Directory from the source data

Server Network Performance Monitoring Tool
Develop a tool to monitor and report on the performance and efficiency of a number of remote servers.

Legal Citation Data Mining Tool
Create a Citation Mining Tool Interface to enable team members without SQL skills to run reports and perform analysis.

Web-based Competitive Analysis Tool
Develop a tool to automatically search competitors websites to determine what they are charging for products making sure to not be detected doing the search.

2007

Sports Score Database for Communications Company
Create a web application that allows registered users to input sports scores (and related statistics) into a standardized database from which other media outlets (radio stations, TV, newspapers) can pull this stored information. In keeping with this, an administrator can alter posted scores, create sports schedules, manage sports, manage teams, and the like.

Database Search and Update Utility
Create a Web Application for searching and updating the Bermuda Information Database. The Bermuda Information Database contains information on how the Bermuda system is called and configured for various content types. The Web Application will have a password protected maintenance utility that will allow users to update the database. The database was built in standard Microsoft Access and XML, but will be migrated to Oracle during the development of the Web Application.

Web-based product review recording system
The scope of the project is to develop a web-based collection of work product reviews. This system will improve the customer's world by setting a standard for product review procedures with a central storage place for viewing results later.

Intrusion Monitoring System – phase 2
Development of host based intrusion monitoring and prevention application software for IBM eServer iSeries. Modify the system to be a server-side application, improve the performance and add several new features.

Update a freeware database refactoring tool
Develop additional functionalities for Database refactoring tool useful for developers working in agile methodology. The sponsoring company had already developed a refactoring tool with minimal functionalities using Java. Using Agile methodology this team had to add more functionality to the existing tool.

Competitive Benchmarking Tool
This project developed a process and web based system to consistently support competitive bench marking in all products groups and support teams. Products include snowmobiles, ATVs, motorcycles, etc.

Web-based Trouble Logging System
Develop a web interface to replace an existing paper based trouble log system. The web interface will allow the remote users to submit a trouble log directly into the system rather than having to mail it in. The system will also allow the company to monitor and track the progress of all of the trouble logs by going to one place. In addition, since the data is being stored in a database, the data can be accessed over many years to help track the usage of the trouble log system in general.

Production Line Monitoring System
Develop a web-based application for production line monitoring. This application displays status of batches and parts in the process of producing a final product. This application is intended to make it easier for observer or shift manager to keep track of work progress on the production floor.

Embedded Computing Research
Provide software development help with research in nanomaterials and nanotechnology. As a part of its Conformal Computing program, it is exploring how to leverage the power of multi-processor parallel architecture for large displays and eventually build a tera-scale experimental architecture.

The vision therefore is to use such hardware architecture for simple to complex computer graphics applications. Simple computer graphics applications may comprise static graphics algorithms: flood fill, displaying circle, line etc. Complex computer graphics applications may comprise displaying 3D objects, texture mapping, volume rendering, animations and so on.

2008

OneNote 2007 and Team Foundation Server (TFS) Integration
Provide an integrated solution where developers using OneNote 2007 during their Agile development Scrum meetings could make updates to TFS work items such as requirements, bugs and tests, directly in OneNote.

Customer Request Repository
Build a secure web-based tool that can access the company employee or customer requests for changes or additions to products. Allow the customer to easily collect, categorize and prioritize these requests as well as do searches and report generation.

Test System for a Claims Processing Automation System
Build a system to help automate the testing of an automated claims processing system. The system should allow for test data entry and modification, test process control and the comparison of original claims data and final claims data from the test.

Cell Phone Application Development
Using the Open Handset Alliance Android development environment, develop prototype cell phone applications. The team built applications for a Message Scheduler, sending Email from the phone, Gtalk Instant Messenger interface, Google Calendar interface, Access to Driving Directions and a Reverse Geo Coder to get the address of a phone.

Open Interface to Company Applications Based Web Services
Convert current applications interfaces from HTTP requests with XML responses to one based on Web Services. Build sample application interfaces and user access routines to demonstrate to developers and users how to take advantage to this kind of interface in the future.

Role-based Training System
Develop a system to manage training data such as courses and employee training records, required courses per role and grades. Allow users to see their own training history and what courses are available, supervisors to view their employee training records, and implement an administrator function to allow for adding/deleting courses, assigning courses to roles and roles to employees and keeping track of supervisor/employee relationships.

Active Directory Automated Updating and SharePoint Learning Management System
Build an Active Directory update utility that will take data from the Payroll database and run automated updates every week and create reports on the update. Also, create a SharePoint application to manage employee training data.

ASCII Message Simulator to test Satellite Communications
Develop a tool to generate ASCII text messages for network delivery as TCP/IP messages simulating satellite communications. This simulator supported logging, error injection, creation of test messages with predefined spacing and error rates, importing of TCP streams as new message profiles, stored data using XML and allowed using the tool in an automated fashion.

Automated Unified Data Collection from a Virtual Automated Call Distributor (ACD)
Develop a system to automate the real-time collection of unified date from various databases associated with a virtual ACD. The system needed to be extensible for adding more functionality and easy to build reports from. The reporting needed to be up to the minute and also required saving data for long-term information reporting to track trends.

2009

Windows Presentation Foundation (WPF) Skin Viewer Application
Develop a Windows Presentation Foundation (WPF) application (Skin Viewer) that allows users to create sets of controls that can be used to build applications that have a common look and feel. For example, each division of a company could easily build websites that have a unique look and feel.

Time Recording Utility
Develop an application to track timesheet information incorporating approval workflow and integration with a commercial project management tool (Jira) as well as the billing system (Quickbooks).

Data Reduction Tool
Develop a tool that will convert binary log data into a human readable format. The tool has to be able to separate different message fields, unpack the data, apply scaling factors and graph selected field values against each other. An associated tool is also needed to easily define message formats and save the message format information in an XML structure. This XML structure will be used to define how to parse the binary log files.

Evaluate the Usability of the IBM WebSphere sMash Toolset
Create a set of sample web applications that address a specific business problem, select the most appropriate then develop a prototype of that application using sMash and report on the ease of use or and any problems encountered.

Replace Specialized FTP Interfaces with Standard Web Services Calls
Develop software to replace specialized FTP interfaces with standard Web Services calls. Integrate the associated changes on both the client and server sides.

User Security Auditing Tool
Develop a tool to populate a central database with application user security information (i.e. who has access to which applications) and a set of tools to report this information in various forms.

Asset Management System
Develop an asset management system that unifies data from several sources. A second phase automates the current lease exchange process.

Digital Signature System
Develop a digital signature system using DSA-digital signature algorithm signatures. The system includes adding CRCs and SHA-1 (Secure Hash Algorithm) when building the message. A second phase adds encryption of the final file.

Mobile Phone "Planning Poker" Application
Develop a "planning poker" application to run on mobile phones running the Android system. The application is multi-user using a peer to peer model and is integrated with Google Docs.

XML Parsing Tool
Develop a tool to parse SML files so that comparisons can be made between old and new versions of files.

JMX Aggregator/Proxy
Develop a tool that exposes custom attributes which are based off values of one or more backend JMX data source.

2010

Facebook Applications
Develop Facebook applications, web based and desktop, to demonstrate how these kinds of applications can be built – included producing documentation on how to build these applications.

Course Management/Testing Application
Develop tools to allow the user to create questions/tests, students to take tests and administrators to manage the system and create reports.

Web Based Network Configuration Application
Create a web based tool that allows a network accelerator to be configured for various conditions. This task included building activity log files, managing multiple interfaces and providing online help functionality.

Generalized Data Reduction Tool, Phase II
This project built on the previous year's work by adding graphing capabilities, cleaning up the user interface, handling header blocks, exporting message definitions to Word documents, etc.

Cloud Based Customer Dashboard
Develop tools to collect call event data from a cloud based ACD deleting data when calls complete and aggregating data to be used on a dashboard that displays system status.

Acoustic Imaging Application
Build an application that processes acoustic data coming into an array of receivers and identify the source of the sound (first single source then multiple sources). Create a parallel processing version of the algorithms using Cilk++ running on a multi-core platform.

Performance Driven Compensation System
Develop an application to manage a performance driven compensation/bonus system. This system also needed to provide support for year-end performance evaluations.

Web Based Image Management System
Develop a system to manage software images replacing an older version. Includes the ability to view and compare side-by-side two different images.

Framework for Mobile Applications
Develop two prototype systems (running on Android and Blackberry platforms) that access web services provided by the sponsoring company.

Statistical Process Control Recording and Charting System
Build an application that is used in a manufacturing environment to automate the recording of data (from networked scales) and analyze this data according to SPC rules for the station to determine whether or not samples are out of range.

Workflow Automation of the Software Promotion Process
Develop a workflow automation application (using ShareVis and InfoPath) to manage the process for moving software status (e.g. development to test to alpha to beta to production)

Data Reduction Tool (different customer than one above)
Build a tool that can analyze data coming from any device and display the messages in human readable form. This was done by building a wizard to enable easy message definitions, an XML parser to convert messages into human readable form and a sophisticated user interface that made it very easy to filter

2. Advisees 2009 – 2010

The list below provides the student advisees for each faculty member. Non-tenured faculty are shielded from most undergraduateand graduate advising.

With regard to graduate students, this list includes either the coursework advisor or the research advisor. The research advisor is listed onl if the student has an approved Plan of Study.

Name	Academic Level	Program Description	Advisor Name
Agbetola,Ayodeji	Senior	Computer Science	Denton,Anne
Al-Azzam,Omar Ghazi	Graduate	Computer Science	Denton,Anne
Al-Nimer,Loai Medhat	Graduate	Computer Science	Denton,Anne
Andersen,Zechariah William	Freshman	Computer Science	Denton,Anne
Arneson,Paul Thomas	Freshman	Computer Science	Denton,Anne
Berstler,Christopher Royal	Freshman	Computer Science	Denton,Anne
Besemann,Christopher Adam	Graduate	Computer Science	Denton,Anne
Bjornson,Tyler John	Freshman	Computer Science	Denton,Anne
Bjornstad,Christopher Jay	Freshman	Computer Science	Denton,Anne
Bliss,Spencer McKay	Sophomore	Computer Science	Denton,Anne
Brakvatne,Kristian Johan	Freshman	Computer Science	Denton,Anne
Chakraborty,Ushashi	Graduate	Computer Science	Denton,Anne
Dammeier,Joel Raymond	Freshman	Computer Science	Denton,Anne
Douglas,Steven Robert	Senior	Computer Science	Denton,Anne
Doyscher,Dan L	Freshman	Computer Science	Denton,Anne
Ellingson,Christopher David	Sophomore	Computer Science	Denton,Anne
Ganesan,Arjun	Graduate	Computer Science	Denton,Anne
Gerhardt,Sean Alan	Junior	Computer Science	Denton,Anne
Gupta,Urvashi	Junior	Computer Science	Denton,Anne
Holo,Dane Christian	Junior	Computer Science	Denton,Anne
Kar,Angshu	Graduate	Computer Science	Denton,Anne
Lara Ubierna,Sandra	Freshman	Computer Science	Denton,Anne
Mahodaya,Rupam Ramnath	Sophomore	Computer Science	Denton,Anne
Nguyen,Austin Nhan	Freshman	Computer Science	Denton,Anne
Odden,Mathew R	Senior	Computer Science	Denton,Anne
Olson,Darwin Glenn	Senior	Computer Science	Denton,Anne
Osmani,Md Golam	Graduate	Computer Science	Denton,Anne
Sahni,Ritika	Graduate	Computer Science	Denton,Anne
Sheoran,Deepak	Senior	Computer Science	Denton,Anne
Smothers,Tyler	Senior	Computer Science	Denton,Anne
Spotts,David	Freshman	Computer Science	Denton,Anne
Wu,Jianfei	Graduate	Computer Science	Denton,Anne
Aceituna,Daniel	Graduate	Software Engineering	Do,Hyunsook
Chugh,Raashi	Senior	Computer Science	Do,Hyunsook
Dash,Siddhant	Sophomore	Computer Science	Do,Hyunsook
Gallenbeck,Gerald C	Senior	Computer Science	Do,Hyunsook
Johnson,Gunnar Brown	Sophomore	Computer Science	Do,Hyunsook
Jones,Andrew Burkhard	Sophomore	Computer Science	Do,Hyunsook
Khosla,Sourabh	Senior	Computer Science	Do,Hyunsook
Rensberger,John Taylor	Sophomore	Computer Science	Do,Hyunsook
Thukral,Kushaagr	Senior	Computer Science	Do,Hyunsook

Tobolaski,Brendan David	Sophomore	Computer Science	Do,Hyunsook
Wiertzema,Travis Jacob	Freshman	Computer Science	Do,Hyunsook
Bengfort,Benjamin John	Graduate	Computer Science	Du,Xiaojiang
Kambhampaty,Krishna Kanth	Graduate	Computer Science	Du,Xiaojiang
Zhang,Ming	Graduate	Computer Science	Du,Xiaojiang
Kimura,Norifumi	Sophomore	Computer Science	Jin,Wei
Mediavilla Garcia,Adrian	Freshman	Computer Science	Jin,Wei
Sharma,Harshvir	Junior	Computer Science	Jin,Wei
Wadhwa,Ankush	Senior	Computer Science	Jin,Wei
Somavarapu,Murali	Graduate	Computer Science	Kim,Sung
Colvin,Cade Alexander	Junior	Computer Science	Kong,Jun
Eda,Ravi	Graduate	Software Engineering	Kong,Jun
Lanke,Ramesh	Graduate	Computer Science	Kong,Jun
Lassonde,Joshua J	Sophomore	Computer Science	Kong,Jun
Limke,Jed Patrick	Graduate	Software Engineering	Kong,Jun
Lutovsky,Joseph Aloys	Freshman	Computer Science	Kong,Jun
Metzler,Zachary Donald	Sophomore	Computer Science	Kong,Jun
Roudaki,Amin	Graduate	Computer Science	Kong,Jun
Roy,Arjun	Graduate	Computer Science	Kong,Jun
Rummelt,Richard	Graduate	Software Engineering	Kong,Jun
Schroeder,Kevin Mitchell	Junior	Computer Science	Kong,Jun
Wiesenborn,Jesse Jacob	Sophomore	Computer Science	Kong,Jun
Wu,Qipeng	Graduate	Computer Science	Kong,Jun
Yadav,Prayas Kumar	Junior	Computer Science	Kong,Jun
Ying,Yuhui	Freshman	Computer Science	Kong,Jun
Assumani,Rafiki E	Freshman	Computer Science	Krush,Joan
Chawla,Tamanna	Freshman	Computer Science	Krush,Joan
Dolney,Robert A	Freshman	Computer Science	Krush,Joan
Garcia Celis,Antonio	Freshman	Computer Science	Krush,Joan
Houkom,Adam Joseph	Junior	Computer Science	Krush,Joan
Knutson,Adam Julius	Freshman	Computer Science	Krush,Joan
Kosis,Madeline Margaret	Sophomore	Computer Science	Krush,Joan
Mears,Shawn Duane	Freshman	Computer Science	Krush,Joan
Moss,Dane Sander	Sophomore	Computer Science	Krush,Joan
Nelson,Jeremy Ruben	Senior	Non-Degree	Krush,Joan
Savageau,Dillon Daniel	Freshman	Computer Science	Krush,Joan
Williams,Brian Jeffrey	Junior	Computer Science	Krush,Joan
Wills,Brian Glen	Sophomore	Computer Science	Krush,Joan
Bat-Otgon,Bat-Od	Sophomore	Computer Science	Li,Juan
Drussell,Benjamin William	Sophomore	Computer Science	Li,Juan
Emamian,Peyman	Graduate	Computer Science	Li,Juan
Krumm,Tanya Grace	Freshman	Computer Science	Li,Juan
Liu,Chao	Graduate	Computer Science	Li,Juan
Pribble,Eric Lin	Junior	Computer Science	Li,Juan
Sharma,Shubh	Junior	Computer Science	Li,Juan
Yadav,Rajkumar	Senior	Computer Science	Li,Juan

Akour,Mohammed abd alwahab	Graduate	Software Engineering	Magel,Kenneth
Alazzam,Iyad	Graduate	Software Engineering	Magel,Kenneth
Aljarah,Ibrahim mithgal	Graduate	Software Engineering	Magel,Kenneth
Anu,Vaibhav KUMAR	Graduate	Software Engineering	Magel,Kenneth
Asgar,Talukdar	Graduate	Software Engineering	Magel,Kenneth
Barakat,Rahaf	Graduate	Software Engineering	Magel,Kenneth
Bawa,Navdeep Singh	Graduate	Software Engineering	Magel,Kenneth
Bhowmick,Dibakar	Graduate	Software Engineering	Magel,Kenneth
Bindra,Dhruv	Graduate	Software Engineering	Magel,Kenneth
Buch,Charles Douglaas	Graduate	Software Engineering	Magel,Kenneth
Carlson,Ryan	Graduate	Software Engineering	Magel,Kenneth
Christeson,Eric John	Graduate	Software Engineering	Magel,Kenneth
Dicken,Austen Leo	Senior	Computer Science	Magel,Kenneth
Dusek,Austin Bryan	Freshman	Computer Science	Magel,Kenneth
Elhassani,Abdelhadi	Graduate	Software Engineering	Magel,Kenneth
Ellingson,Mitchell Wade	Junior	Computer Science	Magel,Kenneth
Elmaraghy,Mohamed Atef	Graduate	Software Engineering	Magel,Kenneth
Ferderer,Bryce Matthew	Freshman	Computer Science	Magel,Kenneth
Fonseka,Nilukshi	Graduate	Software Engineering	Magel,Kenneth
Full,Jacob Michael	Freshman	Computer Science	Magel,Kenneth
Gedrose,Jordan Matthias	Freshman	Computer Science	Magel,Kenneth
Geffre,Tyler Thomas	Sophomore	Computer Science	Magel,Kenneth
Gunderson,Karl Nils	Graduate	Software Engineering	Magel,Kenneth
Hedden,David Scott	Sophomore	Computer Science	Magel,Kenneth
Hou,Xuan	Freshman	Computer Science	Magel,Kenneth
Jacobs,Adam John	Graduate	Software Engineering	Magel,Kenneth
Kaliki,Srikanth	Graduate	Software Engineering	Magel,Kenneth
Knoll,Kenneth	Senior	Computer Science	Magel,Kenneth
Lacher,Lisa L	Graduate	Software Engineering	Magel,Kenneth
Lindhag,Nicholas Carl	Junior	Computer Science	Magel,Kenneth
Longanecker,Joel Thomas	Senior	Computer Science	Magel,Kenneth
Minot,Scott J	Graduate	Software Engineering	Magel,Kenneth
Mohpal,Aditi	Graduate	Software Engineering	Magel,Kenneth
Mohpal,Aditya	Graduate	Software Engineering	Magel,Kenneth
Murugaiyan,Elangovan	Graduate	Software Engineering	Magel,Kenneth
Njos,Robby Douglas	Graduate	Software Engineering	Magel,Kenneth
Nygaard,Justin Lee	Junior	Computer Science	Magel,Kenneth
Pierce,Lance Tyler	Freshman	Computer Science	Magel,Kenneth
Pikalek,Jonathan Michael	Graduate	Computer Science	Magel,Kenneth
Pillarikuppam,Naresh	Graduate	Software Engineering	Magel,Kenneth
Riendeau,Justin Grant	Junior	Computer Science	Magel,Kenneth
Rogers,Wesley Dan	Sophomore	Computer Science	Magel,Kenneth
Roseen,Jeremy Beau	Graduate	Software Engineering	Magel,Kenneth
Schuler,Jonathan Matthew	Senior	Computer Science	Magel,Kenneth
Serfling,Roger Lee	Senior	Computer Science	Magel,Kenneth
Sharma,Rahul	Senior	Computer Science	Magel,Kenneth
Shrestha,Bickrant	Graduate	Software Engineering	Magel,Kenneth
Singh,Anoop	Junior	Computer Science	Magel,Kenneth
Sivanandam,Dinesh Arun	Graduate	Computer Science	Magel,Kenneth
Srichinta,Pallavi	Graduate	Software Engineering	Magel,Kenneth
Srivastava,Arun	Graduate	Software Engineering	Magel,Kenneth
Stone,Jason Blackwood	Senior	Computer Science	Magel,Kenneth
Swoboda,Lance Donald	Freshman	Computer Science	Magel,Kenneth

Takahashi,Naomi	Graduate	Software Engineering	Magel,Kenneth
Tanha,Mousumi	Graduate	Software Engineering	Magel,Kenneth
Thalloji,Pramodh Kumar	Graduate	Software Engineering	Magel,Kenneth
Timm,Geoffrey Gaylen	Senior	Computer Science	Magel,Kenneth
Upadhyay,Rajat	Graduate	Software Engineering	Magel,Kenneth
Xia,Xiaojun	Graduate	Software Engineering	Magel,Kenneth

Agarwal,Veenu	Senior	Computer Science	Martin, John
Al Dhahi,Mahmoud Mohammed	Junior	Computer Science	Martin, John
Albee,Christopher Jahn	Senior	Computer Science	Martin, John
Alic,Edin	Senior	Computer Science	Martin, John
Asthana,Anant Daksh	Senior	Computer Science	Martin, John
Baskerville,Patrick Michael	Senior	Computer Science	Martin, John
Bechtold,Benjamin G	Sophomore	Computer Science	Martin, John
Blattner,David George	Senior	Computer Science	Martin, John
Bragstad,Lance Matthew Dean	Senior	Computer Science	Martin, John
Bredahl,Joseph Michael	Junior	Computer Science	Martin, John
Bremseth,Lucas John	Senior	Computer Science	Martin, John
Brown,Cody Harold	Senior	Computer Science	Martin, John
Carlson,Daniel Alan	Junior	Computer Science	Martin, John
Carlsrud,Ryan Thomas	Senior	Computer Science	Martin, John
Chale,William L	Senior	Computer Science	Martin, John
Christenson,Anna Elizabeth	Senior	Computer Science	Martin, John
Christian,Benjamin Carl	Junior	Computer Science	Martin, John
Daigle,Nicholas Richard	Senior	Computer Science	Martin, John
Delaney,Michael Thomas	Junior	Computer Science	Martin, John
Dobler,Jeremy Joseph	Senior	Computer Science	Martin, John
Dosso,Vamorris	Senior	Computer Science	Martin, John
Ehresmann,Nathan Daniel	Senior	Computer Science	Martin, John
El-Ghandour,Bilal	Sophomore	Computer Science	Martin, John
Floan,Luke Maverick	Junior	Computer Science	Martin, John
Frohlich,Mark Richard	Senior	Computer Science	Martin, John
Gandrud,Ryan Wallace	Sophomore	Computer Science	Martin, John
Gedgaud,Philip Michael	Senior	Computer Science	Martin, John
Geiser,Jeffrey Richard	Sophomore	Computer Science	Martin, John
Greff,Alex Michael	Sophomore	Computer Science	Martin, John
Grendahl,Jacob Paul	Sophomore	Computer Science	Martin, John
Hanna,Richard James	Freshman	Computer Science	Martin, John
Helbling,Chad A	Senior	Computer Science	Martin, John
Held,Christopher Marvin	Freshman	Computer Science	Martin, John
Hodgerson,Eric Allen	Senior	Computer Science	Martin, John
Holisky,Adam S	Senior	Computer Science	Martin, John
Huynh,Uy Thic	Sophomore	Computer Science	Martin, John
Jackson,Abram Jerome	Senior	Computer Science	Martin, John
Jacobson,Anna Colleen	Freshman	Computer Science	Martin, John
Jayawardena,Supra Keli	Senior	Computer Science	Martin, John
Jin,Han	Senior	Computer Science	Martin, John
Kaber,Brett James	Senior	Computer Science	Martin, John
Kariluoma,Matti Maurice	Senior	Computer Science	Martin, John
Kaufman,Mark Joel	Senior	Computer Science	Martin, John
Klingbeil,Seth Andrew	Senior	Computer Science	Martin, John
Knaust,Bryce Delmarr	Junior	Computer Science	Martin, John
Knudson,Ryan Thomas	Sophomore	Computer Science	Martin, John

Kobilansky,Brandon James	Junior	Computer Science	Martin, John
Kramer,Andrew J	Sophomore	Computer Science	Martin, John
Kwiecien,Stanley	Senior	Computer Science	Martin, John
Ladwig,Andrew Jon	Sophomore	Computer Science	Martin, John
Lamb,Andrew Patrick	Sophomore	Computer Science	Martin, John
Lee,Rikki Michelle	Senior	Computer Science	Martin, John
Lein,Nicholas Alexander	Sophomore	Computer Science	Martin, John
Leingang,Brandon Gerald	Sophomore	Computer Science	Martin, John
Lenthe,Josiah Edmund	Senior	Computer Science	Martin, John
Levahn,David	Senior	Computer Science	Martin, John
Lin,Yong-Sheng	Senior	Computer Science	Martin, John
Lindstrom,Robert James	Senior	Computer Science	Martin, John
Lutz,Jared	Senior	Computer Science	Martin, John
Lyons,Daniel	Sophomore	Computer Science	Martin, John
Mahoo,Christopher Joachim	Senior	Computer Science	Martin, John
Mahrer,Alex J	Junior	Computer Science	Martin, John
Maier,Jacob Ryan	Junior	Computer Science	Martin, John
Maurya,Rajeshwar Kumar	Sophomore	Computer Science	Martin, John
McDaniel,Trevor Michael	Senior	Computer Science	Martin, John
Mehinagic,Damir	Senior	Computer Science	Martin, John
Mueller,Benjamin Edward	Senior	Computer Science	Martin, John
Nash,Brock Jordan	Junior	Computer Science	Martin, John
Nordlie,Jeffrey	Junior	Computer Science	Martin, John
Nordsven,Benjamin Vern	Senior	Computer Science	Martin, John
Palazzo,Anthony Michael	Sophomore	Computer Science	Martin, John
Parson,Scott Michael	Senior	Computer Science	Martin, John
Pavicic,Abel Joseph	Junior	Computer Science	Martin, John
Peabody,Matthew James	Senior	Computer Science	Martin, John
Peterson,John William	Sophomore	Computer Science	Martin, John
Peterson,Randolph Dennis	Freshman	Computer Science	Martin, John
Phelps,Bryan Michael	Junior	Computer Science	Martin, John
Piehl,Matthew J	Senior	Computer Science	Martin, John
Prince,Adam Lawrence	Junior	Computer Science	Martin, John
Reinhardt,Lee Edwin	Senior	Computer Science	Martin, John
Reznechek,Adam Donald	Junior	Computer Science	Martin, John
Roemmich,Christopher R	Sophomore	Computer Science	Martin, John
Schmidt,Matthew Paul	Junior	Computer Science	Martin, John
Sharma,Harshwardhan	Senior	Computer Science	Martin, John
Shaw-Smith,Robert Jason	Freshman	Computer Science	Martin, John
Skrei,Brandon M	Senior	Computer Science	Martin, John
Sonalkar,Vishal Vivek	Senior	Computer Science	Martin, John
Stenger,Craig Andrew	Junior	Computer Science	Martin, John
Stenger,Philip M	Sophomore	Computer Science	Martin, John
Stockton,Alexander Craig	Senior	Computer Science	Martin, John
Tangsrud,Andrea Renee	Junior	Computer Science	Martin, John
Thompson,Benjamin Joseph	Junior	Computer Science	Martin, John
Thompson,Christopher Ernest	Senior	Computer Science	Martin, John
Tran,Max An	Freshman	Computer Science	Martin, John
Utke,John A	Junior	Computer Science	Martin, John
Valnes,Taylor James	Sophomore	Computer Science	Martin, John
Wald,Deborah Jean	Sophomore	Computer Science	Martin, John
Wass,Cody Allen	Junior	Computer Science	Martin, John

Ahuja,Sarthak	Graduate	Computer Science	Nygard,Kendall
Amuge,Betty Elizabeth	Graduate	Computer Science	Nygard,Kendall
Annadi,Ramakanth Reddy	Graduate	Computer Science	Nygard,Kendall
Bani Ta'an,Shadi Elaiyan	Graduate	Computer Science	Nygard,Kendall
Bapanpally,Pavan Kumar	Graduate	Computer Science	Nygard,Kendall
Basu,Samidip	Graduate	Computer Science	Nygard,Kendall
Bavanari,Haribabu	Graduate	Computer Science	Nygard,Kendall
Bou ghosn,Steve Martin	Graduate	Computer Science	Nygard,Kendall
Bouret,Megan Sue	Graduate	Computer Science	Nygard,Kendall
Byrisetty,Naga Chaitanya	Graduate	Computer Science	Nygard,Kendall
Chen,Min	Graduate	Computer Science	Nygard,Kendall
Chhina,Ramneet	Graduate	Computer Science	Nygard,Kendall
Chintamaneni,Venkata Santosh	Graduate	Computer Science	Nygard,Kendall
Chinthakayala,Krishna Chaithanya	Graduate	Computer Science	Nygard,Kendall
Chitraranjan,Charith Devinda	Graduate	Computer Science	Nygard,Kendall
Chowdhury,Md. Minhaz	Graduate	Computer Science	Nygard,Kendall
Dash,Debajyoti	Graduate	Computer Science	Nygard,Kendall
Dass,Pranav	Graduate	Computer Science	Nygard,Kendall
Dayala,Divya	Graduate	Computer Science	Nygard,Kendall
de Soysa,Shanaka Chathuranga	Graduate	Computer Science	Nygard,Kendall
Dumpala,Chaitanya	Graduate	Computer Science	Nygard,Kendall
El Ariss,Omar Aref	Graduate	Computer Science	Nygard,Kendall
Fazal,Kareemullah Khan	Graduate	Computer Science	Nygard,Kendall
Fazal,Nazeer	Graduate	Computer Science	Nygard,Kendall
Gagneja,Kanwalinder jit Kaur	Graduate	Computer Science	Nygard,Kendall
Ganti,Annaji Sharma	Graduate	Computer Science	Nygard,Kendall
Garg,Bandana	Graduate	Computer Science	Nygard,Kendall
Garg,Tarun	Graduate	Computer Science	Nygard,Kendall
Ginjala,Ashok Reddy	Graduate	Computer Science	Nygard,Kendall
Ginjupalli,Siva Krishna	Graduate	Computer Science	Nygard,Kendall
Gronneberg,Bethlehem Abera	Graduate	Software Engineering	Nygard,Kendall
Guduru,Srinivas Reddy	Graduate	Computer Science	Nygard,Kendall
Gupta,Divya	Graduate	Computer Science	Nygard,Kendall
Hegde,Reshma	Graduate	Computer Science	Nygard,Kendall
Helsene,Adam P	Graduate	Computer Science	Nygard,Kendall
Hensley,Joel Michael	Graduate	Computer Science	Nygard,Kendall
Ireddy Naga,Krishnakanth Reddy	Graduate	Computer Science	Nygard,Kendall
Jahan,Farzana	Graduate	Software Engineering	Nygard,Kendall
Jaidev,Akanksha	Graduate	Computer Science	Nygard,Kendall
Jonnalagadda,Vindhya	Graduate	Computer Science	Nygard,Kendall
K.C.,Puja	Graduate	Computer Science	Nygard,Kendall
Kandah,Farah Issa	Graduate	Computer Science	Nygard,Kendall
Kaparthi,Nikhitha	Graduate	Computer Science	Nygard,Kendall
Kapoor,Chetan Sumant	Graduate	Computer Science	Nygard,Kendall
Kapoor,Raghav	Graduate	Computer Science	Nygard,Kendall
Khanchandani,Kavita	Graduate	Computer Science	Nygard,Kendall
Koganti,Nikhil	Graduate	Computer Science	Nygard,Kendall
Konar,Prosenjit	Graduate	Computer Science	Nygard,Kendall
Kondakindi,Swathi	Graduate	Computer Science	Nygard,Kendall
Kondamarri,Samuel Sudhakar	Graduate	Computer Science	Nygard,Kendall
Kondoor,Dinesh	Graduate	Computer Science	Nygard,Kendall
Kotala,Pratap	Graduate	Computer Science	Nygard,Kendall
Kroshus,John T	Graduate	Computer Science	Nygard,Kendall

Landin,Michael Kenneth	Graduate	Computer Science	Nygard,Kendall
Liu,Yang	Graduate	Computer Science	Nygard,Kendall
Loree,Paul Edward	Graduate	Computer Science	Nygard,Kendall
Lua,Chin	Graduate	Software Engineering	Nygard,Kendall
Lundell,Martin	Graduate	Software Engineering	Nygard,Kendall
Mandala,Narendar Reddy	Graduate	Computer Science	Nygard,Kendall
Manori,Anshuman	Graduate	Computer Science	Nygard,Kendall
Marback,Aaron J	Graduate	Computer Science	Nygard,Kendall
Mattaparthy,Harika	Graduate	Computer Science	Nygard,Kendall
Mudgal,Akshay	Graduate	Computer Science	Nygard,Kendall
Mukhami,Sudesh	Graduate	Computer Science	Nygard,Kendall
Mukka,Hari Krishna	Graduate	Computer Science	Nygard,Kendall
Murugesan,Karthiksivaram	Graduate	Computer Science	Nygard,Kendall
Nayakam,Ghanashyam Nath	Graduate	Computer Science	Nygard,Kendall
Pachaiyappan,Sathya	Graduate	Computer Science	Nygard,Kendall
Pachva,Srikar	Graduate	Computer Science	Nygard,Kendall
Pandey,Shivendushital Pyarelal	Graduate	Computer Science	Nygard,Kendall
Param,Sowjanya	Graduate	Computer Science	Nygard,Kendall
Paturu,Suresh Nityananda	Graduate	Computer Science	Nygard,Kendall
Podagatlapalli,Chaitanya Prasad	Graduate	Computer Science	Nygard,Kendall
Poreddy,Sandeep Reddy	Graduate	Computer Science	Nygard,Kendall
Pradeep Amaran,NFN	Graduate	Computer Science	Nygard,Kendall
Pradhan,Basudha	Graduate	Software Engineering	Nygard,Kendall
Pullagurala,Praveen	Graduate	Computer Science	Nygard,Kendall
Raavi,Sandeep	Graduate	Computer Science	Nygard,Kendall
Radermacher,Alex David	Graduate	Computer Science	Nygard,Kendall
Raidu,Venkata Narasimha Manoj Krishna	Graduate	Computer Science	Nygard,Kendall
Ranganathan,Prakash	Graduate	Computer Science	Nygard,Kendall
Rehman,Sana	Graduate	Computer Science	Nygard,Kendall
Reindl,Phillip Steven	Graduate	Computer Science	Nygard,Kendall
Samaraweera,Shaminda Asela	Graduate	Computer Science	Nygard,Kendall
Sambaraju,Sharath Chandra	Graduate	Computer Science	Nygard,Kendall
Saxena,Kaustubh	Graduate	Computer Science	Nygard,Kendall
Sen,Sourya	Graduate	Computer Science	Nygard,Kendall
Sharma,Ranjana	Graduate	Computer Science	Nygard,Kendall
Sharma,Sonu	Graduate	Computer Science	Nygard,Kendall
Sharma,Susbi	Graduate	Computer Science	Nygard,Kendall
Sikharam,Sandeep	Graduate	Computer Science	Nygard,Kendall
Singh,Saumya	Graduate	Computer Science	Nygard,Kendall
Singh,Yashaswi	Graduate	Computer Science	Nygard,Kendall
Sundaram,Anita	Graduate	Computer Science	Nygard,Kendall
Suravarapu,Vijay Anand	Graduate	Computer Science	Nygard,Kendall
Teotia,Ashish	Graduate	Computer Science	Nygard,Kendall
Thapa,Birendra	Graduate	Computer Science	Nygard,Kendall
Tirupathi,Phani Ganga Bhavani	Graduate	Computer Science	Nygard,Kendall
Tiwari,Shweta	Graduate	Computer Science	Nygard,Kendall
Vellaswamy Chelaiah Rothimasw,Ashok	Graduate	Computer Science	Nygard,Kendall
Voorhees,William	Graduate	Computer Science	Nygard,Kendall
Wang,Yan	Graduate	Computer Science	Nygard,Kendall
Wijeyaratne,Pubudu Ruwanmini	Graduate	Software Engineering	Nygard,Kendall
Yadav,Asha	Graduate	Computer Science	Nygard,Kendall
Yang,Ying	Graduate	Computer Science	Nygard,Kendall
Yarram,Vishnu V Reddy	Graduate	Computer Science	Nygard,Kendall

Zhao,Jingjun	Graduate	Computer Science	Nygard,Kendall
Agrawal,Ruhi	Junior	Computer Science	Perrizo,William
Anderson,Lawrence R	Senior	Computer Science	Perrizo,William
Bechtold,Jacob M	Sophomore	Computer Science	Perrizo,William
Chatterjee,Arijit	Graduate	Computer Science	Perrizo,William
Clark,Benjamin James	Sophomore	Computer Science	Perrizo,William
Dedic,Ajdin	Freshman	Computer Science	Perrizo,William
Fleming,Eric David	Senior	Computer Science	Perrizo,William
Haich,Abram Paul	Junior	Computer Science	Perrizo,William
Hatfield,Andrew Brian	Senior	Computer Science	Perrizo,William
Hein,Ella Ruthann	Freshman	Computer Science	Perrizo,William
Hofer,Brandon Michael	Sophomore	Computer Science	Perrizo,William
Janssen,Lance Steven	Freshman	Computer Science	Perrizo,William
Jockheck,William H	Graduate	Computer Science	Perrizo,William
Johnson,Michele M	Freshman	Computer Science	Perrizo,William
Knight,Zachary Bryan	Junior	Computer Science	Perrizo,William
Kohlmeyer,Joanna R	Senior	Computer Science	Perrizo,William
Laney,Nicholas Joseph	Senior	Computer Science	Perrizo,William
Larson,Nicholas C	Senior	Computer Science	Perrizo,William
Lee,Huheun	Junior	Computer Science	Perrizo,William
Lu,Tingda	Graduate	Computer Science	Perrizo,William
Rogers,David DeLoach	Senior	Computer Science	Perrizo,William
Strom,Steven Gordon	Sophomore	Computer Science	Perrizo,William
Stutsman,Samuel James	Freshman	Computer Science	Perrizo,William
Zumwalde,Sarah Thavy	Senior	Computer Science	Perrizo,William
Borchert,Otto Jerome	Graduate	Computer Science	Slator,Brian
Dischinger,Benjamin James	Graduate	Computer Science	Slator,Brian
Frovarp,Richard Ernest	Graduate	Computer Science	Slator,Brian
Frueh,Ryan Matthew	Junior	Computer Science	Slator,Brian
Hokanson,Guy Eric	Graduate	Computer Science	Slator,Brian
Shaske,Jacob K	Senior	Computer Science	Slator,Brian
Wangota,Paul	Senior	Computer Science	Slator,Brian
Anderson,Justin S	Junior	Computer Science	Ubhaya,Vasant
Bhardwaj,Vidushi	Junior	Computer Science	Ubhaya,Vasant
Damm,Jaren Allan	Sophomore	Computer Science	Ubhaya,Vasant
Devney,John Raymond	Freshman	Computer Science	Ubhaya,Vasant
Ghosh,Arko	Junior	Computer Science	Ubhaya,Vasant
Grimes,Timothy Daniel	Freshman	Computer Science	Ubhaya,Vasant
Hanson,Kyle Christian Andrew	Sophomore	Computer Science	Ubhaya,Vasant
Ibwe,Nico Salum	Senior	Computer Science	Ubhaya,Vasant
Kim,Jeonghwan	Freshman	Computer Science	Ubhaya,Vasant
Loegering,Davin Godfree	Sophomore	Computer Science	Ubhaya,Vasant
Mason,Brianne Kaylie	Freshman	Computer Science	Ubhaya,Vasant
Monson,Dwight Bradley	Freshman	Computer Science	Ubhaya,Vasant
Polfliet,Alexander Duane	Sophomore	Computer Science	Ubhaya,Vasant
Shellito,Christopher M	Sophomore	Computer Science	Ubhaya,Vasant
Welle,Michael Paul	Junior	Computer Science	Ubhaya,Vasant
Wells,Heather R	Freshman	Computer Science	Ubhaya,Vasant
Williamson,Tyler W	Senior	Computer Science	Ubhaya,Vasant
Wollan,Alexander L	Junior	Computer Science	Ubhaya,Vasant

Wolter,Michael	Junior	Computer Science	Ubhaya,Vasant
Zhang,Shutao	Senior	Computer Science	Ubhaya,Vasant
Bhogadi,Manu Kishore	Graduate	Software Engineering	Xu,Dianxiang
Chakravarthi,Satheesh	Graduate	Computer Science	Xu,Dianxiang
Aakula,Srikanth Goud	Graduate	Computer Science	Zhang,Weiyi
Bai,Shi	Graduate	Computer Science	Zhang,Weiyi
Bhardwaj,Ankur	Junior	Computer Science	Zhang,Weiyi
Foertsch,Robert John	Senior	Computer Science	Zhang,Weiyi
Gunderson,Adam Richard	Freshman	Computer Science	Zhang,Weiyi
Gupta,Nimish	Junior	Computer Science	Zhang,Weiyi
Rosnau,Joel Martin	Sophomore	Computer Science	Zhang,Weiyi
Surana,Prince	Senior	Computer Science	Zhang,Weiyi
Teubner,Michael	Junior	Computer Science	Zhang,Weiyi
Vanteru,Siva Venkata	Graduate	Computer Science	Zhang,Weiyi
Wadman,Thomas Alexander	Junior	Computer Science	Zhang,Weiyi
Agarwal,Abhishek	Graduate	Computer Science	undecided
Annapureddy,Anupama Reddy	Graduate	Computer Science	undecided
Chauhan,Anuj Kumar Singh	Graduate	Computer Science	undecided
Joseph,Priya	Graduate	Computer Science	undecided
Maddi,Sunil Reddy	Graduate	Computer Science	undecided
Ramirez Sanchez,Cesar Andres	Freshman	Computer Science	undecided
Sharma,Dakshi	Junior	Computer Science	undecided
Verma,Goonj	Freshman	Computer Science	undecided
Addy,Sydney Nee Tetteh	Graduate	Software Engineering	undecided
Falah,Bouchaib	Graduate	Software Engineering	undecided
Kallam,Lakshmi Mrudula	Graduate	Software Engineering	undecided
Katiyar,Arti	Graduate	Software Engineering	undecided
Kohli,Jyotjeev	Graduate	Software Engineering	undecided
Novotny,Judi Lynn	Graduate	Software Engineering	undecided
Potla,Yaswanth	Graduate	Software Engineering	undecided
Sathiaseelan,Anu Evelyn	Graduate	Software Engineering	undecided
Sharma,Aman	Graduate	Software Engineering	undecided
Singh,Kunal Kishore	Graduate	Software Engineering	undecided

3 Curriculum and course development and changes:

Implementation of the Master of Software Engineering online degree program is well underway. Six online courses have been completed and offered. Four more are being developed during the summer of 2010 and will be offered strating in fall, 2010. The program presently has three students. Advertising of the program will start in fall, 2010.

The Department developed numerous changes to our B.S. in Computer Science degree program during 2009-10. These changes have been approved by the Department and will start the College and University approval process in fall, 2010. We hope to implement the changes starting in fall, 2011.

The changes are:
Our charge was to develop modifications to our existing B.S. in Computer Science curriculum to address some concerns brought up frequently by potential employers and

to bring the curriculum in line with satisfying the most recent ACM/IEEE curriculum guidelines. We were not to increase the number of hours required for the degree. We believe we have satisfied our charge (and more) with the changes listed here. Please review this material carefully as we hope to gain Department approval to enable the writing of the formal paperwork over the summer. Thank you.

1. Change the catalog descriptions for CSci 160 and 161 to
   - Clarify what each course is to accomplish
   - Add the prerequisite of an NDSU Mathematics or programming course to 160.

This is proposed because the 160 instructors believe that too many students take 160 who are unprepared to do well in the course. The Mathematics or programming course will provide some background in abstract reasoning. Exceptional students may request a wavier of this prerequisite.

2. Introduce a new course, CSci 213: Modern Software Tools with CSci 161 as a prerequisite. This course will provide students with experience doing requirements engineering, software design, test planning, implementation, and test plan execution with selected modern tools that cover configuration management, schedule tracking, bug tracking, symbolic debugging, and automatic unit testing. Students will work on the project individually to ensure that each student gains experience with each of the development activities. This course addresses a need cited often by the capstone project sponsors and mentors.

3. Introduce a new course, CSci 313: Software Development for Games with a prerequisite of CSci 213. This course will have students work in teams to implement a computer graphics display and an artificial intelligence-based computer opponent for a single human player. The course uses games because that was the only type of project we could discover that would have substantial use of human-computer interfaces, computer graphics, and artificial intelligence (at least to the extent the ACM/IEEE 2008 update specifies these areas should be covered. The course will include introductions to the ACM/IEEE mandated coverage of these three topics. Student teams will continue to use the tools introduced in CSci 213.

The ACM/IEEE 2008 Update Book of Knowledge requires the following topic coverage that we have assigned to CSci 313:

a. Human-Computer Interaction:
   i. Foundations (6 class hours)
   ii. Building GUI Interfaces (2 class hours)
b. Graphics and Visual Computing:
   i. Fundamental techniques (2 class hours)
   ii. Graphic Systems (1 class hour)
c. Intelligent Systems
   i. Fundamental issues (1 class hour)
   ii. Basic Search strategies (5 class hours)
   iii. Knowledge based reasoning (4 class hours)

These hours will require approximately one half of the course. The rest of the course will cover software development topics reviewing and going beyond those covered in CSci 213.

4. Introduce a new course, CSci 415: Parallel Computation with prerequisites of CSci 313 and 374. This course is also mandated by the ACM/IEEE update. The course surveys parallel computation across hardware, software, programming languages, algorithms, and application areas. This course is copied verbatim from the ACM/IEEE update. It contains enough networks material to satisfy the ACM/IEEE requirement for networking coverage.

The ACM/IEEE Update mandates the following coverage of Net-centric Computing:

i. Introduction (2 class hours)
ii. Network communication (7 class hours)
iii. Network security (6 class hours)

5. Consolidate CSci 335 and 336 into a single course, CSci 336, which covers important automata theory and computability.

6. Consolidate CSci 366 and 468 into a single course, CSci 366, which covers database management systems.

7. Consolidate CSci 474 and 475 into a single course, CSci 474, which covers operating system concepts and implementation.

8. Drop CSci 373 as a degree requirement and move a couple of weeks of assembly language programming into CSci 374 (Electrical and Computer Engineering already does this with their version of 374). CSci 366 replaces CSci 373 as the prerequisite for CSci 374.

9. Make Csci 313 a prerequisite for CSci 372.

10. Make CSci 313 a prerequisite for CSci 445.

11. Make CSci 336 a prerequisite for CSci 467 to ensure that students do not leave 336 until their last semester.

12. Update several course descriptions to reflect what we are currently doing in those courses.

4. Accreditation and reviews:

The B.S. in Computer Science has been accredited since 1986, the first year that accreditation was available. The ABET interim visit and review in the fall of 2007 was very successful. The B.S. continues to be accredited through June, 2010. Our reviewer has requested that we consider the M.S. in Computer Science and the M.S. in Software Engineering for possible submission for ABET accreditation. The Department will consider these possibilities in the future.

The Department was scheduled to undergo an onsite review of its B.S. accreditation by an ABET visiting team in fall, 2009.

The Department could not spare the necessary funds in this period of budget cuts. Accordingly, we elected in late summer, 2009 not to undergo the reaccreditation evaluation. Our B.S. accreditation will lapse on July 1, 2010. The Department is undergoing a planned two year period of determining whether or not we will seek ABET accreditation in the future. This period includes surveys of graduates and prospective employers concerning their perception of the importance of ABET accreditation of Computer Science programs. When the two years are completed, we will decide whether or not to seek funds for a new accreditation visit.

5. Activities in student recruitment/retention, enrollment management, and other student activities:

The Department continued the two initiatives begun in 2005-06: introduction of a student honor society; and early selection of graduate teaching assistants as a recruiting tool. We implemented a sorely needed new web site also.

At the undergraduate level the Department recognizes there is a retention problem. We have identified the problems as four-fold:

(1) Students are not always sufficiently motivated to master the knowledge and skills they must learn;
(2) By the end of their sophomore year, successful students have acquired skills and experiences which are sought by industry. Each year, several students leave to take well-paying industrial jobs;
(3) Our courses are not sufficiently coordinated with each other to provide students with needed repeated reinforcement of skills and practices introduced in earlier courses;
(4) The analytical material we introduce in several courses is not well-accepted or mastered by many of our students.

We continue to attempt solutions to these problems The new B.S. curriculum we are proposing attempts to address some of these problems by replacing abstract, theoretical courses with more handson courses. The proposal includes a course on game development which should appeal to some students.

Our new advisor, Joan Krush, is leading our expanded efforts in undergraduate student recruiting. We have prepared more visual recruiting materials. Joan has attended several conferences and meetings at which student recuritment from the upper midwest is done. She has initiated visits to area high schools.

Ms. Krush is leading our efforts to improve our student advising. She has helped to review all of our advising materials. Several improvements and clarifications to those documents and our Department web pages are being completed during summer, 2010.

Senior professors teaching freshman and transfer students:

Nearly all of the courses for CS majors, including those in the lower division, are taught by tenured or tenure-track professors, in accordance with ABET accreditation requirements. Entry level courses are regularly taught by senior professors.

Summer school activities:

The Department typically offers at least two graduate-level courses each summer, including at least one of the four graduate core courses. At least two courses for undergraduate majors are also offered. Service courses, such as CSci 114 and 116 are offered also. The

Department offers several courses each summer under the self-support program. The self-support program is very beneficial for the department. Unfortunately, the minimum requirement for about twenty students in self support courses means that some of the courses we would like to offer are not actually offered each year. Several distance education courses are presented as well.

Career Center student employment

CS Bachelor students employment rate is 93% at a salary range of Low-Average-High being 33-57-81K. We believe these figures significantly underestimate the real employment rate since many graduating students do not go through the Career Center to procure employment. Our own discussions with graduating students indicate an employment rate near 100% for students who immediately seek employment.

6. Distance Education and use of Technology in Courses:

The Department offers distance versions of CSci 114, 116., and 122 every semester and in the summer. Other service courses are offered via distance less frequently. Starting fall, 2006, we offered the Graduate Certificate in Software Engineering including four courses and a seminar through distance to students in India and elsewhere. We plan to expand our graduate distance education offerings to the M.S. in Software Engineering beginning fall, 2009. Introduction of new distance education courses is limited by the many time commitments already imposed upon faculty. Starting fall, 2010, we plan to advertise the Certificate and MSE programs regionally as well. Our efforts will be limited by our tight budget, however.

Every Computer Science course uses technology extensively. Courses use the Internet for delivery and many courses require extensive computer work. We are heavy users of Blackboard. Many courses use a variety of specialized computer software

7. Assessment

The Department followed our reorganized assessment procedures from 2008-09. This time, our reorganization was driven by a significant change in ABET accreditation requirements. For the first time, the ABET Computing Sciences Commission is requiring specific outcomes for the B.S. program. We replaced our existing outcomes with those required by ABET and reformulated our accreditation procedures to meet the new ABET requirements. Our University Assessment Report for 2009-10 is due January, 2011.

Service courses were assessed during 2009-10. Each course has a set of goals based on the General Education learning outcomes assigned to that course. We used formative assessment involving techniques described by Angelo and Cross in their book, Classroom Assessment Techniques, and cumulative assessment addressing the specific learning goals for each course.

We started to develop assessment procedures for our graduate courses during this academic year. The seven possible core courses (two unique to Computer Science programs, three unique to Software Engineering programs, and two common) were the focus during this year. We developed specific outcomes for each of those courses. Actual assessment will begin during 2010-11. Eventually, we expect to expand our graduate assessment to cover all regular graduate courses and seminars.

B. RESEARCH/CREAVTIVE ACTIVITY

1. *Research and creative activities:*

While almost all tenure track faculty regularly publish in high-quality media, external grants continue to be concentrated among too few faculty. The Department started a research enhancement program for junior faculty during 2005-06. This program continued in 2009-10. A program to encourage visits by more senior faculty from other institutions in research areas of interest to our junior faculty was begun in 2006-07. This program pays expenses and a small honorarium either for senior faculty to travel to NDSU to work intensively with our faculty for two weeks or for our faculty to travel to work intensively with senior faculty elsewhere for one or two weeks. Available funds have limited the use of this program to one or two instances per semester.

Our long range goal for the next three to five years is to improve the visibility and prestige of the Department's research programs nationally. We believe the rather low prestige of the Department outside our region (where we are widely imitated as a research and teaching leader) hurts our grant acquisition capability from federal funding agencies and from large corporations. However, the NSF did cite our program as being in the top-100 Computer Science programs during 2006-07 aand subsequent years.

The Department has active research programs in data mining, software engineering, networks, virtual environments, computer systems, software security, and bioinformatics. These programs should continue to achieve more visibility within the profession.

2. *Grants/Contracts/Research:*

COMPUTER SCIENCE DEPARTMENT GRANTS AND CONTRACTS, PART 1
PROJECTS INITIATED PRIOR TO JULY 1, 2009, AND CONTINUING INTO THE 2009-2010 ACADEMIC YEAR

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
7/05 to 7/09	10693	Denton	Data Mining in the Presence of Quantitatively Diverse Information	NSF	272,557
3-1-09 to 2-28-10	15445	Denton	Construction of High Resolution Physical Maps for Large Plant Genomes	NSF	35,521
09-01-07 to 08-31-10	12474	Du	CRI – A Heterogeneous Sensor Network Laboratory for Igegrated Research and Education Transfer to Temple	NSF	88,370
09-01-07 to 07-31-08	12649	Du	NeTS NOSS – Collaborative Research Transfer portion to Temple	NSF	122,376
6-1-09 to 8-31-10	15719	Du	Research Experience for Undergraduates	NSF	16,000

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
9-1-08 to 8-31-09	15186	Du	Espcor Nasa Match – Seed Award	State Epscor	5,478
11-14-08 to 6-30-09		Du	Travel for IEEE Global conference	NASA Epscor	1,500
6-09 to 8-09	15871	Du	Nets Noss Collaborative Research For Undergraduate salary Transfer to Temple University	NSF	8,000
5-09 to 6-10	15878	Du	GRA salary for Ben Bengfort	NDSU Development Foundation	1,000
7-15-08 to 7-14-11	13097	Du/Nygard	Designing Robust & Secure Heterogeneous Sensor Networks	U.S. Army	358,748
9-1-08 to 8-31-09	15040	Kong/Zhang	Espcor Nasa Match – Seed Award	State Epscor	5,064
9-1-08 to 8-31-09	15185	Kong/Zhang	Espcor Nasa Match – Seed Award	State Epscor	6,548
1/09 to 7/31/09	18139	Nygard	Military Logistics	Upper Great Plains	15,000
8-16-08 to 6-30-09	14663	Nygard	Graduate Research Assistantship for Paul Loree	Epscor	15,276
7-09 to 12-09	14560	Nygard	Instructional Workshop for Chinese Faulty members	Zhejiang Economic and Trade Polytechnic	9,000
1/09 to 7/31/09	18139	Nygard	Military Logistics	Upper Great Plains	15,000
5-09 to 4-10	16248	Nygard	NASA Epscor GSR & travel award	Epscor	15,230
5-09 to 4-10	16082	Nygard	NASA Epscor Seed Award	NASA / UND Epscor	17,414
5-09 to 4-10		Nygard/Du	NASA Epscor GRA	Epscor	13,230
8/15/06 to 8/15/09	11284	Slator	Pilot Project: Research on Serious Games fo Geoscience Education	NSF	73,959
TOTAL					**1,095,271**

COMPUTER SCIENCE DEPARTMENT GRANTS AND CONTRACTS
PROJECTS INITIATED DURING THE JULY 1, 2009 TO JUNE 30, 2010 TIME PERIOD

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
9-09 to 8-11	14736	Do	NSF – II-New Infrastructure for model-based security testing	NSF	220,000
5-10 to 8-11	17213	Do	II-New Infrastructure for model-based security testing	NSF	16,000
11-09 – 12/09		Du	Epscor Travel Award	Epscor	2,000
8-09 to 7-10	15352	Kong	Graphical Interface Interpretation Using Graph Grammars	Hewlett Packard	40,000

YEAR	GRANT #	PRINCIPAL INVESTIGATOR	TITLE	FUNDING SOURCE	AMOUNT
7-09 to 6-10	15845	Kong	Epscor State Seed Grant	NDSU	38,800
7-09 to	18703	Magel	Faculty Course Development for an on-line MSE		25,000
7-09 to 6-10	16101	Marback Fellowship Award	Microsoft Fellowship Award to Aaron Marback	Microsoft	15,000
5-10 to 6-10	17168	Mohpal /Sharma GRA Award	Epscor GRA award	Epscor	2,693
8-09 to 6-10	16056	Nygard GRSA Award	Epscor GRSA Award to Paul Loree	Epscor	15,276
9-09 to 7-11	16447	Nygard	Designing Robust & Secure Heterogeneous Sensor Networks	US Army	124,544
7-09 to 12-09	14560	Nygard	Instructional Workshop for Chinese Faulty members	Zhejiang Economic and Trade Polytechnic	9,000
8-09 to 8-10	14560	Nygard	Zhejiang Economic and Trade Polytechnic Instructtional Workshop	Zhejiang Economic and Trade Polytechnic	11,000
1/10 to 7/31/10	18139	Nygard	Military Logistics	Upper Great Plains	7,500
1-10 to 5-10	16597	Nygard for Student Award	Intelligent Insites, Inc Award to Abhishek Agarwal	Intelligent Insites, Inc	8,977
11-09	18335	Slator Student Award	Digikey Award	Digikey	3,000
7-09 to 6-10	15846	Zhang	Epscor State Seed Grant	NDSU	41,300
Totals					**580,090**

3. ***Faculty Articles/Books/Publications/Presentation and Course Instruction:***

Sameer Abufardeh

Professional Developments Milestones:

- Completed my PhD thesis defense in Nov. 2008.
- Received my PhD diploma June, 2009.

Research
2008 Calendar Year

Refereed Publications

1) **Abufardeh, S. and Magel, K.,** "Software Localization: The Challenging Aspects of Arabic to the Localization Process (Arabization)." IASTED Proceeding: Software Engineering SE 2008. Innsbruck, Austria (Feb. 2008).

2) **Abufardeh, S.; Magel, K.** QA/Testing Bi-directional Languages Software: Issues and Challenges COMPSAC '08. 32nd Annual IEEE International, Turku, Finland. (July, 2008).

2009-2010 Calendar Year

i. Refereed Publications

1) **Abufardeh, S.; Magel, K. (2010).** *Impact of Global Software Cultural and Linguistic Aspects on Global Software Development Process (GSD): Issues and Challenges.* **Accepted** by the 4th International Conference on New Trends in Information Science and Service Science (NISS2010) which will be held on 11-13 May, 2010 in Gyeongju, Korea.

2) **Abufardeh, S. and Magel, K. (2009*).*** *Software Internationalization: Testing Methods for Bidirectional Software*. NCM 2009: FIFTH INTERNATIONAL JOINT CONFERENCE on INC, IMS and IDC, Seoul – Korea (August 2009).

3) **Abufardeh, S. and Magel, K. (2009).** *Software Internationalization: Crosscutting Concerns across the Development Lifecycle.* International Conference on New Trends in Information and Service Science (NISS 2009), Beijing, China (July 2009).

4) **Abufardeh, S. and Magel, K. (2009).** *Culturalization of Software Architecture: Issues and Challenges.* International Conference on Computer Science and Software Engineering (CSSE 2008), Wuhan, China. (Feb. 2009).

Reviewer:

International Conference on New Trends in Information Science and Service Science (NISS).

ii. Other Research Activities (in-progress)

1) S. Abufardeh, K. Magel,. Security of International Software.

2) S. Abufardeh, M. Akour, K. Magel. "A Rule Based Question Answering System for Reading Comprehension Tests in Arabic".

3) Salem S., Aljarah, I. S. Abufardeh. "Automatic bug triage using Information Retrieval & Data mining techniques".

Teaching

a) Calendar Year 2008

Spring 2008:

Course #	Credit Hours	# of students	Instructor Rating
CSCI 161 Sec I	4	40	4.036
CSCI 161 Sec II	4	37	4.286

Fall 2008:

Course #	Credit Hours	# of students	Instructor Rating
CSCI 161 Sec I	4	40	4.353
CSCI 161 Sec II	4	32	4.333
CSCI 474 Sec II	3	30	4.5

b) Calendar Year 2009

Spring 2009:

Course #	Credit Hours	# of students	Instructor Rating
CSCI 161 Sec I	4	39	4.113
CSCI 161 Sec II	4	31	4.136

Fall 2009:

Course #	Credit Hours	# of students	Instructor Rating
CSCI 161 Sec I	4	34	4.118
CSCI 161 Sec II	4	30	4.0
CSCI 469 **/669**	3	7	4.4
	3	9	4.826

c) Calendar Year 2010

Spring 2010:

Course #	Credit Hours	# of students	Instructor Rating
CSCI 161 Sec I	4	41	n/a
CSCI 161 Sec II	4	28	n//a

Service:

2008

1. Department meetings.
2. New faculty recruitment – Attending presentations & evaluation.
3. VP Upsilon Pi Epsilon (UPE) - NDSU Chapter.

2009-2010

1) Department meetings.
2) Curriculum review committee member.
3) New faculty recruitment – Attending presentations & evaluation.

i. 4) VP Upsilon Pi Epsilon (UPE) - NDSU Chapter.

ii. 5) Reviewer: International Conference on New Trends in Information Science and Service Science (NISS).

Anne Denton

Refereed Publications

Anne M. Denton, Jianfei Wu, Megan K. Townsend, Preeti Sule, and Birgit M. Prüß," Relating gene expression data on two-component systems to functional annotations in Escherichia coli," *BMC Bioinformatics*, 9:294, pp. 1-19, 2008.

Dietmar Dorr and Anne Denton, "A pattern mining approach toward discovering generalized sequence signatures," Proceedings of the SIAM International Conference on Data Mining (SDM08), Atlanta, GA, pp. 353-362, April 24-26, 2008, ISBN 978-089871-654-2.

Anne Denton, "Clustering of time series data," in Encyclopedia of Data Warehousing and Mining, 2nd Edition, Volume 1, pp. 258-263, ed. John Wang, Idea Group Publishing, Hershey, PA, 2008.

Anne Denton and Christopher Besemann, "Association rule mining of relational data," in Encyclopedia of Data Warehousing and Mining, 2nd Edition, Volume 1, pp. 87-93, ed. John Wang, Idea Group Publishing, Hershey, PA, 2008.

Presentations

SIAM International Conference on Data Mining (SDM08), Atlanta, GA, April 24-26, 2008. (poster, see above)

Funded Research Proposals (title, PI and co-pi's, duration, amount, source)

Pattern discovery in high-throughput biofilm data
PIs: Anne Denton and Birgit Prüß
Funding Source: NDSU CSM/AES Small Grant Program
Amount: $6,200
Award period: 10/01/2008 – 9/15/2009

Unfunded Proposals

CAREER: Data mining of diverse data using vector attributes
PI: Anne Denton
Funding Source: NSF-IIS
Amount: $403,869
Award Period: 02/01/2009 – 01/31/2014

A network of transcriptional regulation circles around FlhD/FlhC and affects the

expression of surface organelles
PI: Birgit Prüß, Co-PI: Anne Denton
Funding Source: NSF-Genes and Genomes Systems
Award period: 03/01/2008-02/28/2011
Amount: $460,286

Graduate student advisees completed

Masters

Lakshmi Anantha Rahman

Phd

Dietmar Dorr

2009-2010 Calendar Year

Refereed Publications

Anne M. Denton and Jianfei Wu, "Data Mining of Vector-Item Patterns Using Neighborhood Histograms," *Knowledge and Information Systems*, **21**:173-199, 2009.

Dietmar H. Dorr and Anne M. Denton, "Establishing relationships among patterns in stock market data," *Data & Knowledge Engineering* 68, pp. 318-337, 2009.

Anne M. Denton, "Subspace Sums for Extracting Non-Random Data from Massive Noise," *Knowledge and Information Systems (KAIS) Journal*, 20, pp. 35-62, 2009.

Dietmar H. Dorr and Anne M. Denton, "Clustering sequences by overlap," *International Journal of Data Mining and Bioinformatics* **3**:26-279, 2009.

Dietmar H. Dorr and Anne M. Denton, "Generalised sequence signatures through symbolic clustering," *International Journal of Data Mining and Bioinformatics*, (in press).

Anne M. Denton, Christopher A. Besemann and Dietmar H. Dorr, "Pattern-based time-series subsequence clustering using radial distribution functions," *Knowledge and Information Systems (KAIS) Journal*, 18, pp. 1-27, 2009.

Jianfei Wu, Anne M. Denton, Omar El-Ariss, and Dianxiang Xu, "Mining core patterns in stock market data," Mining Multiple Information Sources Workshop in conjunction with the *2009 IEEE International Conference on Data Mining,* Miami, Dec 6, 2009.

In second review:
Christopher A. Besemann and Anne M. Denton, "A Log-Linear Approach to Mining Significant Graph-Relational Patterns" under consideration by Data and Knowledge Engineering

Submitted:

Birgit M. Pruess, Karan Verma, Priyankar Samanta, Preeti Sule, Sunil Kumar, Jianfei Wu, David Christianson, Shelley Horne, Shane J. Stafslien, Alan J. Wolfe, and Anne Denton, "Acetate metabolism is a sensor of environmental conditions during *Escherichia coli* K-12 biofilm development" submitted to Archives of Microbiology

Loai Alnemer and Anne M. Denton, "A density-based algorithm for evaluating classification significance at the record level" submitted to the ACM-KDD Conference

Presentations

Mining Multiple Information Sources Workshop in conjunction with the *2009 IEEE International Conference on Data Mining,* Miami, Dec 6, 2009 (presentation, see above)

Funded Research Proposals (title, PI and co-pi's, duration, amount, source)

TRPGR- Transformative research on the construction of high-resolution physical maps for large plant genomes
PI: Shahryar Kianian, Co-PIs: Anne Denton, Yong Qiang Gu, Ming-Cheng Gu, and Oscare Riera-Lizarazu
Funding Source: NSF-DBI
Amount: $ 952,211
Award Period: 03/01/2009 – 03/01/2010

Unfunded Proposals

CDI-Type I: Significant Patterns in Diverse Microbiological Data
PI: Anne Denton, Co-PI: Birgit Pruess
Funding Source: NSF-CDI
Amount: $ 399,959
Award Period: 12/01/2009 – 12/01/2012

Environmental control of Escherichia coli biofilm formation
PI: Birgit Pruess, Co-PI: Anne Denton
Funding Source: NSF-MCB Genes and Genome Systems
Amount: $483,310
Award Period: 01/01/10 – 12/31/12

III:Small: Data mining of diverse data using vector attributes
PI: Anne Denton, Co-PIs: Birgit Pruess and Dean Webster
Funding Source: NSF-IIS
Amount: $496,685
Award Period: 07/01/09 – 06/30/2012

Pending Proposals

Software and Computational Science Village
PI: Ken Nygard, Co-PIs Anne Denton, Brian Slator, William Perrizo, Kenneth Magel

Funding Source: NSF-SMP
Amount: $700,000
Award Period: 07/16/10 – 07/15/13
Time Per Year Committed: 0.5 month

Graduate student advisees completed Masters

Szymon Woznica

Other Research Activities

Teaching 2008

Course #	# of students	Instructor Rating
CSci 372	43	4
CSci 366	45	3.8
CSci 790	13	4.8

2009

Course #	# of students	Instructor Rating
CSci 372	36	4.3
CSci 732	21	4.1
CSci 366	59	4

2010

Course #	# of students	Instructor Rating
CSci 372	40	
CSci 372	18	
CSci 732	18	
CSci 790	6	

Service: 2008

Department

- Faculty Search Committee

- Committee for the evaluation of possible replacements for the SOD cluster (computer cluster using UNIX operating system) 2008
- CS Department Proposal Review Committee 2008

University

- Tech Fee Advisory Committee
- University Library Committee
- Awards Committee
- WISMET/FORWARD Interview Team for Upper Administration Candidate Searches
- Steering Committee for interdisciplinary Genomics Program

Professional

- Journal Review
  •Knowledge and Information Systems (KAIS), Springer
  •Data & Knowledge Engineering, Elsevier
  •Statistical Analysis and Data Mining SAM
  •Source Code for Biology and Medicine, BioMed Central
  •International Journal for Data Mining and Bioinformatics, Inderscience

- Program committee member for the 2008 IEEE International Conference on Data Mining, ICDM-08, Pisa, Italy, Dec. 15-19, 2008.
- Program committee for the Seventh International Conference on Machine Learning and Applications, ICMLA'08, San Diego, CA, Dec. 11-13, 2008.
- Program committee member for the Seventh Mexican International Conference on Artificial Intelligence, Mexico City, Mexico, Oct. 27-31 2008.
- Program committee member for the 2008 ACM Symposium on Applied Computing, Fortaleza, Ceará, Brazil, March 16 - 20, 2008.
- Technical committee member for the IEEE 2008 International Joint Conference on Neural Networks (IJCNN 2008), Hong Kong, June 1-6, 2008.
- 2008 Special Session on Analysis of High Dimensional Data in Bioinformatics at the IEEE World Congress on Computational Intelligence (WCCI 2008)

- Serving as an Editorial Board member of the Open Source journal entitled "Source Code for Biology and Medicine (SCBM)," which is part of BioMed Central as one of its independent journals.

Community

- Supervision of Governor School students (high-school aged) for 10 weeks in summer: Amanda Thomas Miller
- Judge (engineering notebooks) and referee (at competition) for BISON BEST Robotics Competition Oct. 2008
- Volunteered to lead workshop at Sonia Kovalevsky Mathematics High School Day Sept. 2008

2009-2010

Department

- Faculty Search Committee
- Course fee committee
- Departmental curriculum committee

College

- Ad hoc member of College Curriculum Committee

University

- Search Committee for Director of CHPC
- Academic Affairs Committee
- Tech Fee Advisory Committee
- Awards Committee
- Steering Committee for interdisciplinary Genomics Program

Professional

- Panelist for NSF-IIS Program
- Panelist for ND-EPSCOR Doctoral Dissertation Assistantship - NDSU

- Journal Review
  •IEEE Transactions on Knowledge and Data Engineering
  •Knowledge and Information Systems (KAIS), Springer
  •Data & Knowledge Engineering, Elsevier
  •Statistical Analysis and Data Mining SAM
  •Source Code for Biology and Medicine, BioMed Central
  •International Journal for Data Mining and Bioinformatics, Inderscience

- Technical Committee of the Fourteenth Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-10), Hyderabad, India, June 21-24, 2010.
- Technical committee member for the IEEE 2010 International Joint Conference on Neural Networks (IJCNN 2010), Barcelona, July 18-23, 2010.
- Technical Committee of the Thirteenth Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-09), Bangkok, Thailand, April 27-30, 2009.
- Program committee member for the 2009 ACM Symposium on Applied Computing, Waikiki Beach, Honolulu, HI, March 8 - 12, 2009.

- Serving as an Editorial Board member of the Open Source journal entitled “Source Code for Biology and Medicine (SCBM),” which is part of BioMed Central as one of its independent journals.

- Participated in EPSCoR Coalition Meeting 24-25 Feb. 2009 in Washington, DC., and met with Congressional Delegation.

Community

- Supervision of 5 students as part of the North Dakota State University, Mississippi Valley State University, and Northern Arizona University Summer Undergraduate Research STEM Program
- Jessica Filon, Antia Cain, Ryan Burciaga, Chiquita Lee, Sherry Taylor
- Co-organized Math Fair at Longfellow Elementary School, March 2010

Hyunsook Do

- Research
  - 2008 Calendar Year

i. Refereed Publications

(1) An Empirical Study of the Effect of Time Constraints on the Cost-Benefits of Regression Testing. H. Do, S. Mirarab, L. Tahvildari, and G. Rothermel, FSE, November, 2008.
(2) Using Sensitivity Analysis to Create Simplified Economic Models for Regression Testing. H. Do and G. Rothermel, ISSTA, July 2008

ii. Presentations

(1) FSE08, An Empirical Study of the Effect of Time Constraints on the Cost-Benefits of Regression Testing, November 2008, Atlanta, GA.
(2) ISSTA08, Using Sensitivity Analysis to Create Simplified Economic Models for Regression Testing, July 2008, Seattle, WA.

iii. Unfunded Research Proposals

(1) NSF, Cyber Trust, CT-ER: Automated generation of security test code, $196,133 for two years, Co-PI, submitted 3/14/2008.
(2) ADD in South Korea, Cost-effective risk-based testing strategy for safety-critical embedded systems, $179,517 for three years, PI, submitted 7/12/2008.
(3) ND NASA EPSCoR Graduate Student Research, Context-sensitive evolution-aware testing techniques, $13,537, PI, submitted Oct 2008.
(4) ND NASA EPSCoR Faculty Seed Research, Model-based security testing and controlled experimentation, $15,315, PI, submitted Oct 2008.

iv. Graduate Students advisees completed

(1) Don Nagahawatte, "An empirical study: effects of the residual faults cost on the cost benefit of regression testing," MS, 12/5/2008.

v. Graduate student Committees on which I serve

(1) F. Katib, "Local spiral search in sensor coverage problems," MS, 3/26/2008.
(2) S. Herath, "Network storage sharing and file management tools,"MS, 10/7/2008.

vi. Hosting a Computer Science Invited Talk

(1) Gregg Rothermel, University of Nebraska-Lincoln, "Software Testing: An Evolution-Centric Perspective", 10/27/08, funded by the Dean's office of College of Science and Mathematics ($1500), the Computer Science department ($350), and the Cooperative Sponsorship Committee ($700)

  - 2009-2010 Calendar Year

i. Refereed Publications

(1) P. Nagahawatte and H. Do, The Effectiveness of Regression Testing Techniques in Reducing the Occurrence of Residual Defects, ICST, April, 2010.

(2) A. Marback, H. Do, K. He, S. Kondamarri, and D. Xu, Security test generation using threat trees, AST, May, 2009.

ii. Other publications

(1) A. Marback, H. Do, K. He, S. Kondamarri, and D. Xu, A Model-based Approach to Security Testing, Journal of STVR, under review.

(2) P. Nagahawatte and H. Do, Can Regression Testing Techniques be Effective in Reducing the Occurrence of Residual Defects?, Tech. Report: NDSU-CS-TR-09-004, NDSU, June, 2009.

(3) D. Aceituna and H. Do, Validating Requirements Models Using SQ Querying, Tech. Report: NDSU-CS-TR-09-003, NDSU, June, 2009.

(4) A. Marback, H. Do, K. He, S. Kondamarri, and D. Xu Security Test Generation using Threat Trees, Technical Report: NDSU-CS-TR-09-001, NDSU, January, 2009.

iii. Presentations

(1) ICST10, The Effectiveness of Regression Testing Techniques in Reducing the Occurrence of Residual Defects, April 2010, Paris, France.

iv. Funded Research Proposals

(1) NSF, CRI, II-NEW: Infrastructure for model-based security testing, controlled experiments, and education, PI, $220,000, 9/1/2009 – 8/31/2011.

v. Unfunded Proposals

(1) NSF, CAREER, A New Generation of Context-Oriented Regression Testing Techniques and Strategies, $579,992 for five years, submitted 7/21/2009.

(2) NDSU Advance Forward LEAP, Domain-aware regression test, $29,790, PI, submitted 6/1/2009.

(3) ND EPSCoR IIP-Seed Program, Evolution-centric Regression Testing Incorporating Data Mining Techniques, $79,200, submitted 4/20/2009.

(4) ONR Young Investigator Program, Evolution-centric, process-based, cost-effective regression testing, $507,562, PI, submitted 1/12/2009.

vi. Pending Proposals

(1) NSF, CCF, SHF:Small:Collaborative Research: Directed automated test suite augmentation, $269,451 for three years, PI, submitted 12/17/2009.

(2) NSF, Research Experiences for Undergraduates (REU), II-NEW: Infrastructure for model-based security testing, controlled experiments, and education, $34,170 for 20 months, PI, submitted 10/22/2009.

vii. Graduate student advisees completed

(1) D. Aceituna, Validating requirements models using SQ querying, MS, 2/19/2009.

viii. Graduate student Committees on which I serve

(1) N. Takahashi, Kakuro solver application, MS, 3/5/2010.

(2) S. Kondamarri, MS, expected May 2010.

(3) C. You, MS, expected May 2010.

Teaching

- 2008

Course #	# of students	Instructor Rating
715	9	4.2
747	6	4.2
783	4	4.6

- 2009

Course #	# of students	Instructor Rating
715	10	
413	18	
345	3	4.3

- 2010

Course #	# of students	Instructor Rating
714	6	

- Service:

2008

Department: faculty hiring committee, teaching free semester plan committee, and comprehensive exam committee for Software Engineering
University: an advisor for the Bison Herald student organization at NDSU
Professional: journal reviewer (Software Maintenance and Evolution, Systems and Software, Information and Software Technology, Software Testing, Verification and Reliability,

2009-2010

Department: faculty hiring committee, free semester plan committee, and technical report coordinator
University: an advisor for the Bison Herald student organization at NDSU
Professional: the conference program committee (TAICPART 2009, AST 2010, and SESS 2010); journal reviewer (ACM Transactions on Software Engineering and Methodology, IEEE Transactions on Software Engineering, Software Testing, Verification and Reliability, Information and Software Technology, Computers and Security)

Wei Jin

- Research
  - 2008 Calendar Year
    i. Refereed Publications

Wei Jin, Rohini K. Srihari and Abhishek Singh, "Generating Hypotheses from the Web", in Proceedings of *the 17th International World Wide Web Conference (WWW-08),* Beijing, China, 2008.

ii. Presentations

″Huffman coding and its applications", Department of Computer Science, Frostburg State University, 2008.

iii. Unfunded Proposals

NSF Cyber-enabled Discovery and Innovation (CDI)-Type I: Discovering Hidden Associations in Large Text Corpora and Heterogeneous Data (**PI**)

2009-2010 Calendar Year

Refereed Publications

Abhishek Singh, Lucy Vanderwende and **Wei Jin**. "Ranking Summaries for Content and Coherence without Reference Summaries", accepted by *the Pacific Northwest Regional Natural Language Processing Workshop (NW-NLP 2010),* Microsoft Research Redmond, Redmond, WA 98052

Wei Jin and Hung Hay Ho."A novel lexicalized HMM-based learning framework for web opinion mining", in Proceedings of *the 26th International Conference on Machine Learning (ICML 2009),* pp. 465-472, Montreal, Canada, June 2009. (***Estimated Impact Factor: 2.12 (top 1.88%)***)

Wei Jin and Xin Wu."CDPRanking: discovering and ranking cross-document paths between entities", in Proceedings of *the 32rd ACM International Conference on Research and Development in Information Retrieval (SIGIR 2009)* (Demo paper), Boston, MA, July 2009. (***Estimated Impact Factor: 1.10 (top 19.08%)***)

Wei Jin, Hung Hay Ho and Rohini K. Srihari."OpinionMiner: a novel machine learning system for web opinion mining and extraction", in Proceedings of *the 15th ACM International Conference on Knowledge Discovery and Data Mining (SIGKDD 2009),* pp. 1195-1204, Paris, France, June 2009. (***Estimated Impact Factor: 1.68 (top 6.14%)***)

Presentations

"A novel lexicalized HMM-based learning framework for web opinion mining", in the *the 26th International Conference on Machine Learning (ICML 2009)*, Montreal, Canada, June 2009.

"CDPRanking: discovering and ranking cross-document paths between entities", in *the 32rd ACM International Conference on Research and Development in Information Retrieval (SIGIR 2009)* (System Demonstration), Boston, MA, July 2009.

Unfunded Proposals

NSF Information and Intelligent Systems (IIS)-Core Programs: Discovering Hidden Associations in Large-Scale Distributed Text Corpora (**PI**)
NIH Challenge Grants in Health and Science Research: A secure and convenient genome information management system (**co-PI,** collaborated with Department of Health Sciences, University of Pittsburgh)

Pending Proposals

NSF Information and Intelligent Systems (IIS)-Core Programs: Domain Driven Association Discovery and Scenario Detection from Large-scale Heterogeneous Data (**PI**), December, 2009.

NSF Information and Intelligent Systems (IIS)-Core Programs: A Unified Representation and Retrieval Model for Traditional Web, Social Web and Semantic Web (**PI**), December, 2009.

Pending Publications

- Abhishek Singh, Lucy Vanderwende and **Wei Jin**. "Ranking Summaries for Content and Coherence without Reference Summaries", submitted to *the 48th Annual Meeting of the Association for Computational Linguistics (ACL'2010).*

Graduate student advisees completed

Masters
Yaswanth Potla
Praveen Emmadi

- Graduate student Committees on which you serve

Swapna Phadke (as major professor)
Shweta Tiwari (as major professor)
Swathi Kondakindi
Mousumi Tanha
Sandeep Poreddy
Mridula Sarker

- Teaching
  - 2008

CSCI 372 Comparative Languages; 3 credits; 53 registered students; new preparation

  - 2009

CSCI 345 Topics in Personal Computers; 3 credits; 11 registered students; new preparation

CSCI 783 Topic/Information Retrieval and Web Search; 3 credits; 8 students; new preparation

CSCI 372 Comparative Languages; 3 credits; Section 1, 46 students

CSCI 372 Comparative Languages; 3 credits; Section 2, 34 students

- 2010

CSCI 426 Introduction to Artificial Intelligence; 3 credits; 26 students; new preparation (Undergraduate Level)

CSCI 626 Introduction to Artificial Intelligence; 3 credits; 2 students; new preparation (Graduate Level)

- Service:

2008
College
Junior Faculty Series: The first year teaching seminar

2009-2010
Department
Department of Computer Science Faculty Recruiting Committee (Spring 2009, Fall 2009)

College

Junior Faculty Series: The first year teaching seminar
Junior Faculty Series: the 2nd year faculty development series

Professional

NSF Review panel: CDI (Cyber-enabled Discovery and Innovation) program, Arlington, Virginia, February, 2009

Program Committee Member:

CIKM 2010 - The 19th International Conference on Information and Knowledge Management

WWW 2010 International Semantic Search Workshop - Located at the 19th Int. World Wide Web Conference.

IWGD 2010 - International Workshop on Graph Database, in Conjunction with the 11th International Conference on Web-Age Information Management

Journal Reviewer:

DKE - Data & Knowledge Engineering

JWS - Journal of Web Semantics

Tariq King

- Research
    - 2009-2010 Calendar Year

i. Refereed Publications

1. **Tariq M. King**, and Annaji Sharma Ganti. *Migrating Autonomic Self-Testing to the Cloud*. Proceedings of the 2010 International Conference on Software Testing, Verification and Validation Workshops (**ICSTW 2010**), IEEE April 6-10, 2010, In Press.

2. Peter J. Clarke, **Tariq M. King**, and Edward L. Jones. *WReSTT – Web-Based Repository of Software Testing Tools*. Proceedings of the 2010 Workshop on Teaching Software Testing (**WTST 2010**), January 29-31, 2010, pages 52-59.

3. Peter J. Clarke, James F. Power, Djuradj Babich, **Tariq M. King**. *A Testing Strategy for Abstract Classes*. Journal of Software Testing, Verification and Reliability (**STVR**), Wiley Interscience, Accepted January 6, 2010, In Press.

4. Andrew A. Allen, Yali Wu, Peter J. Clarke, **Tariq M. King**, and Yi Deng. *An Autonomic Framework for User-Centric Communication Services*. Proceedings of the 2009 Conference of the Center for Advanced Studies (**CASCON 2009**), ACM November 2-5, 2009, pages 203-215. Acceptance Rate**: 25%**

5. Peter J. Clarke, Andrew A. Allen, Yali Wu, and **Tariq M. King**. *Experiences of Teaching Model-Driven Engineering in a Software Design Course*. Proceedings of the Educators' Symposium of the 2009 International Conference on Model-Driven Engineering Languages and Systems (**MODELS 2009**) Conference, ACM-IEEE October 4-9, 2009, pages 6-14.

ii. Presentations

1. WReSTT – Web-Based Repository of Software Testing Tools, CCLI Phase II Grant Planning Session, October 29, 2009, School of Computing and Information Sciences, FIU, Miami FL.

2. Software Testing & Autonomic Computing Research, Empirical Software Engineering Group Meeting, September 28, 2009, Department of Computer Science, NDSU, Fargo ND.

iii. Pending Proposals

1. **Tariq M. King** (PI), Richard Rummelt (Senior Personnel), *Collaborative Research: Integrating Testing into CS1-CS3 with the Support of a Web-Based Testing Repository*, Agency: NSF. Program: CCLI. Amount Requested: **$173K** for **three (3)** years. Collaborative proposal with Dr. Peter Clarke (PI-FIU, Requested $367K) and Djuradj Babich (PI-MDC, Requested $58K).

iv. Other Research Activities

1. Founded the Software Testing Research Group (STRG), http://cs.ndsu.edu/strg. Currently consists of six (6) graduate students, i.e., four (4) PhD students and two (2) MS students.

2. Coordinating four (4) research projects of the STRG in the following areas: Software Testing in the Cloud; Change Propagating Test Models; Environment-Based Testing of Adaptive Software; and Testing Enterprise Resource Planning Systems.

3. Performing experiments to evaluate system-wide self-testing using the Communication Virtual Machine (CVM) prototype, http://www.cis.fiu.edu/cml.

4. Collaborating with colleague Dr. Walia on two (2) research projects: Estimating defect size through a study in CSci 718, and guiding students in the performance of systematic literature reviews on testing adaptive systems.

5. Held individual meetings with the following three (3) colleagues to discuss research collaboration ideas: Dr. Kong – using UML graph transformations to support self-testing; Dr. Do – evaluating model-driven scenario query using CVM; and Dr. Zhang – runtime test optimization based on network configuration and performance.

- Teaching
  - 2009-2010 Calendar Year

i. Courses Taught

Course #	# of students	Instructor Rating
CSci 718	9	**4.89**
CSci 718	25	TBD

ii. Major Professor (Ongoing)

1. Annaji Sharma Ganti, PhD, Software Engineering
2. Mohammed Akour, PhD, Software Engineering
3. Iyad Alazzam, PhD, Software Engineering
4. Talukdar Asgar, PhD, Software Engineering
5. Akanksha Jaidev, MS, Software Engineering

iii. Thesis/Dissertation Committee (Ongoing)

1. Siva Vanteru, MS, Computer Science
2. Jed Limke, MS, Computer Science

3. Revathi Dhamotharan, MS, Electrical and Computer Engineering

- Service:
  a. 2009-2010 Calendar Year
     i. Department
        1. Faculty Co-Advisor for the NDSU Chapter of Upsilon Pi Epsilon (UPE)
     ii. Professional
        1. Reviewer for the 2010 International Conference on Software Testing (ICST 2010)
        2. Reviewer for the Web-Based Repository of Software Testing Tools Project, NSF DUE-0736833.
        3. Invited Panelist for the 9th Annual Workshop on Teaching Software Testing (WTST 9)

Dean Knudson

- **Research**
  - **2008 Calendar Year**

i. Refereed Publications

Dean Knudson, Kenneth Magel, "Comments on the Use of TWiki, Blackboard Portfolios and Trac to Share Proprietary Information in Student Projects", *SITE 2008 – Society for Information Technology & Teacher Education International Conference*, Las Vegas, NV, March 3-7, 2008

ii. Funded Research Proposals (title, PI and co-pi's, duration, amount, source)

Instructional Development Grant Project, "Add Software Development Processes to CSci Capstone Course", January 2008 award, runs until June 30, 2008, $4,500, PI – Dean Knudson
NSF – Collaborative for Scholarships in Computer, Information Science, and Engineering (CoCISE), awarded 2006, and runs for four years, $463,000, PI – Dr. Kendall Nygard, my role is to help coordinate the program by doing things like reviewing candidates and setting up talks for the students.

iii. Unfunded Proposals

Ozbund Economic Development Award, with Dr. Huunsook Do to help ND companies develop better software development processes

"Automatic and Continuous Monitoring of Food Safety and Preserving of Food Identity Using Wireless Technologies", PI's Weiyi (Max) Zhang, Dean Knudson, Charlene Wolf-Hall, AFSNR Program

iv. Other Research Activities

I worked with Dr. Hyunsook Do to have one of her testing theories tried out on a real-life project (the capstone project being done for ATK).
I worked with the Upper Great Plains Transportation Institute at NDSU and put them in contact with people at CH Robinson who have a very large

database of transportation data. These groups have now been in contact and intend to work together.
The work Max and I did with Charlene Wolf-Hall lead to our being part of a new NSF proposal, "*IGERT THINKERS for Tomorrow's Problems in Food Logistics & Security*" from the Food Safety Department and Upper Great Plains Transportation Institute (Max Co-PI, Dean – Participant)

- **2009-2010 Calendar Year**

i. Refereed Publications

Dean Knudson, Alan Braaten, "Industry/University Cooperation in Defining Software Processes for use in Real-world Computer Science Capstone Team Projects", *SEPG 09 North America*, a Software Engineering Institute sponsored conference, San Jose, CA, March 23-26, 2009
Dean Knudson, Alex Radermacher, "Software Engineering and Project Management in CS Projects vs. 'Real-world' Projects: A Case Study", *IASTED-Software Engineering Applications 2009*, Cambridge, MA, November 2-4, 2009.
Dean Knudson, Alex Radermacher, "Project Management and Software Development Processes for Computer Science Capstone Projects", Capstone Design Conference, Boulder, CO, June 7-9, 2010 accepted.
Alex Radermacher, Adam Helsene, Dean Knudson, "Improving Capstone Courses with Content Management Systems and Virtualization", Capstone Design Conference, Boulder, CO, June 7-9, 2010 accepted.

ii. Other Publications

Alex Radermacher, Adam Helsene, Dean Knudson, "Implementing Content Management Systems and Virtualization for Computer Science Capstone Courses", SIGUCCS Spring Management Symposium, Victoria, BC, April 19-21, 2010, accepted, conference papers are not to be published.

iii. Funded Proposals

NSF – Collaborative for Scholarships in Computer, Information Science, and Engineering (CoCISE), awarded 2006, and runs for four years, $463,000, PI – Dr. Kendall Nygard, my role is to help coordinate the program by doing things like reviewing candidates and setting up talks for the students.

iv. Unfunded Proposals

Instructional Development Grant follow-on proposal to last year's "*Moving the Computer Science Capstone Course toward CMMI Level 2*", Dean Knudson, one year, $4500
NSF - OIA – CDI Type II: Netbook Learning: Farming in Virtual Fields, Brian Slator, Xiaojiang Du, Phillip McClean, Donald Schwert, four years, $1,603,469 – my role was Senior Personnel to manage relationship with OLPC program in Uruguay

NSF – IGERT: IGERT THINKERS for Tomorrow's Problems in Food Logistics & Security, 5 years, Charlene Wolf-Hall, $??, my role was industry liaison

v. Pending Proposals

NSF – CCLI Type 2 – Improving Computer Science Capstone Project Experiences, Dean Knudson, Gursimran Walia, Kenneth Magel, three years, $415,518, pending
NSF – MRI: Development of Robust WiMAX-based Testbed for Public Safety Monitoring, Weiyi Zhang, Dean Knudson, Jun Kong, Kendall Nygard, $310,075, pre-proposal accepted and currently writing full proposal

vi. Other Research Activities

I am working with the legal department to get the proper forms ready in order to set up a university/industry consortium program. We now have a draft document that works for legal and I am checking it out with some people in industry. Phoenix International has agreed to join the group and we have had preliminary discussions regarding potential projects. I have also started discussions with other companies regarding membership.

I have gotten Weiyi Zhang connected with people at ATC and they are in discussions regarding teaming on an NSF grant dealing with Future Internet Architectures.

I also am working on getting Ken Nygard and ATC connected to potentially work on projects having to do with teams of agents/robots working in a coordinated cooperating manner to do things like search buildings areas.

I worked with several companies that sponsor Capstone projects to get their input on the software development and project management processes we use in our Capstone class. People from Medtronic, Phoenix and ATK are currently performing a process audit on our capstone processes.

- **Teaching**
  - **2008**

Course #	# of students	Instructor Rating
CS 445	44 (12 projects)	Instruction – 4.455 Instructor – 4.364 Communications – 4.409 Quality – 4.318 Fairness – 4.500 Understanding – 4.409
CS 716	11 (4 projects)	(no rating – Dr. Magel's class)

  - **2009**

Course #	# of students	Instructor Rating
CS 445	42 (13 projects)	Instruction – 4.622 Instructor – 4.703 Communications – 4.757 Quality – 4.649 Fairness – 4.811 Understanding – 4.649
CS 716	5 (1 project)	(no rating – Dr. Magel's class)

  - **2010**

Course #	# of students	Instructor Rating
CS 445	38 (10 projects)	No ratings available yet
CS 716	26 (6 projects)	(no rating – Dr. Magel's class)

- **Service:**

2008

Department

Arranged for several lectures from managers at Microsoft, IBM and Thomson West and arranged for CoCISE scholarship award winners to attend these talks as well as CS majors.
Worked with Ansal Institute students to screen them for the Capstone course and to recommend how to get ready for the course if they were not ready. Also screened all transfer students who came in after their sophomore year.

2009-2010

Department

Arranged for several lectures from managers at Microsoft, IBM, ATK and Thomson West and arranged for CoCISE scholarship award winners to attend these talks as well as CS majors.
Worked with the department to give feedback on curriculum issues raised by sponsors in industry. This continued on to working with a curriculum review team that is addressing the whole CS undergraduate curriculum.
Worked with Ansal Institute students to screen them for the Capstone course and to recommend how to get ready for the course if they were not ready. Also screened all transfer students who came in after their sophomore year.

College

Arranged for a lecture from Olaf Storaasli, Distinguished Research Scientist, at Oak Ridge National Labs and introduced him to the people in charge of research in the Tech Park.

Jun Kong

- **Research**
  - **2008 Calendar Year**

i. Refereed Publications

J. Kong and C. Y. Zhao, "Visual Language Techniques for Software Development", *Journal of Software*, Vol.19(8), 2008, 1902-1919.

J. Kong, K.L. Ates, K. Zhang, Y. Gu, "Adaptive Mobile Interfaces Through Grammar Induction", *Proc. 20th IEEE International Conference on Tools with Artificial Intelligence*, 2008, 133-140.

C. Zhao, K.L. Ates, **J. Kong**, and K. Zhang, "Discovering Programs Behavioral Patterns by Inferring Graph-Grammars from Execution Traces", *Proc. 20th IEEE International Conference on Tools with Artificial Intelligence*, 2008, 395-402.

H. Ahmadi and **J. Kong**, "Efficient Web Browsing on Small Screens", *Proc. ACM International Conference on Advanced Visual Interfaces*, 2008, 23-30.

J. Kong and D. Xu, "A UML-based Framework for Design and Analysis of Dependable Software", *Proc. Annual International Computer Software and Applications Conference*, 2008, 28-31.

ii. Other publications

J. Limke, **J. Kong**, and J. Dong, "Adaptation in a Pervasive Computing Environment", *Proc. International Conference on Software Engineering Theory and Practice*, 2008, 145-155.

iii. Funded Research Proposals

Title: Cross-Layer Design for Reliable Communications in the InterPlaNetary Network Source: NASA
PI and co-PIs: J. Kong & W. Y. Zhang Duration:10/15/2008- 08/31/2009 Amount: $11,612

iv. Unfunded Proposals

Title: 3D Simulation of Chromosome and Spindle Behavior during Meiotic Cell Division
Source: NDSU PI: J. Kong

Title: Higher-Order Software Architectures for Pervasive Computing

Source: NSF-SRS PI: D. Xu My role: Co-PI

Title: Automated Generation of Executable Test Code from State Models
Source: NASA PI: D. Xu My role: Co-PI

Title: User-Centric and Automatic Specification and Verification of UML Behavioral Semantics
Source: NSF-CPA PI: J. Kong

Title: Spatial Graph Grammars for Visual Languages and Applications
Source: NSF-TF PI: J. Kong

v. Graduate student advisees completed: 1 student

Name: Hamed Ahmadi Degree: MS Date: Dec. 9, 2008
Title: Efficient Web Browsing on Small Screens

vi. Graduate student Committees on which you serve: 5 students

Name	Name	Name
Sireesha Ganapa	Faraz Katib	Ramesh Natarajan
Sathish Pinagapani	Ganesh K. V. C. Rothimaswa	

• 2009-2010 Calendar Year

i. Refereed Publications

C. Y. Zhao, **J**. **Kong**, and K. Zhang, "Program Behavior Discovery and Verification: A Graph Grammar Approach", To appear in *IEEE Transactions on Software Engineering*, 2009.

J. Kong, D. Xu, and X. Zeng, "UML-based Modeling and Analysis of Security Threats", To appear in *International Journal of Software Engineering and Knowledge Engineering*, 2009.

W. Zhang, **J. Kong**, K. Nygard, and M. Li, "Adaptive Design of Pervasive Computing System Under QOS Constraints", To appear in *International Journal of Computers and Applications*, 2009.

J. Kong, K. Zhang, J. Dong, and D. Xu, "Specifying Behavioral Semantics of UML Diagrams Through Graph Transformations", *Journal of Systems and Software*, Vol.82(2), 2009, 292-306.

S. Pinagapani, D. Xu, and J. Kong, "A Comparative Study of Access Control Languages", *3rd International Conference on Secure Software Integration and Reliability Improvement*, 2009.

W. Zhang and **J. Kong**, "Distraction-free Service in Pervasive Environments Based on Multi-Constrained QoS Routing", *2009 International Conference on New Trends in Information and Service Science*, 2009.

W. Zhang, **J. Kong**, K. Nygard, and M. Li, "Adaptive Configuration of Pervasive Computing System with QoS Consideration", *Proc. 6th Annual IEEE Consumer Communications and Networking Conference*, 2009.

ii. Funded Research Proposals

Title: Mobile-Friendly Web Browsing Source: ND EPSCoR
PI: J. Kong Duration: 09/01/2009 – 08/31/2011 Amout: $77,600

Title: Graphical Interface Interpretation Using Graph Grammars Source: HP
PI: J. Kong Duration: 08/01/2009 – 07/31/2011 Amout: $40,000

iii. Unfunded Proposals

- Title: Adaptation of Web Information for Mobile Display

Source: NSF-IIS PI: J. Kong

- Title: WiMAX-based testbed for Public Safety Monitoring in Rural Areas

Source: NSF-CRI PI: W. Y. Zhang My Role: Co-PI

Title: Efficient and Trusted Information Sharing of Healthcare Systems
Source: NIH PI: J. Kong

i. Pending Proposals

- Title: Human-Centric Adaptive Multimodal Interface Design in the Pervasive Environment

Source: NSF-IIS Duration: 09/01/2010 – 08/31/2013 Amount: $402,414 PI: J. Kong

- Title: Discovering Information Organization From Unstructured Documents Using Graph Grammars

Source: NSF-CDI Duration: 09/01/2010 – 08/31/2013 Amount: $261,980 PI: J. Kong

i. Graduate student advisees completed: 6 students

Name	Degree	Date	Title
Thilak Rajaraman	Master	May 11, 2009	A comparative Study of Adaptive Layouts on Mobile Devices
Ramchandra Kadam	Master	Mar. 23, 2009	Automating a Robotic Coating System
Ambika S Tirupathi	Master	May 12, 2009	An Interactive Tool for JAVA Swing Education
Ravi Eda	Master	Sep. 4, 2009	A State Based Approach for Testing Menu Driven Applications
Yaswanth Potla	Master	Sep. 22, 2009	Adapting Web Page Tables on Mobile Devices
Qipeng Wu	Master	Dec. 15, 2009	A Graphical Tool for Test Generation for State Models

i. Graduate student Committees on which you serve: 13 students

Name	Name	Name	Name
Satheesh Chakravarthi	Praveen Kumar Emmadi	Annaji Ganti	Ramakrishnareddy Gooduru
Vasumathi Guduru	Harsh Jain	Jerilyn Kazeck	Oksana Myronovych
Naomi Takahashi	Phillip Reindl	Huma Rizvi	Durga Perambakksm Ramamurthy
Sri Harsha Yamparala			

- **Teaching**

  - **2008**

Course #	# of Students	Instructor Rating
CSci 488: Human Computer Interaction	23	4.727
CSci 688: Human Computer Interaction	2	4.0
CSci 474: Operating Systems Concepts	41	4.448
CSci 475: Operating Systems Design	40	4.0

  - **2009**

Course #	# of Students	Instructor Rating
CSci 488: Human Computer Interaction	21	4.583
CSci 688: Human Computer Interaction	20	4.5
CSci 474: Operating Systems Concepts	41	4.24
CSci 475: Operating Systems Design	41	4.385

- **Service:**

  - **2008**

Department: CS Nomination Committee; CS Teaching Free Semester Committee
College: Student Progress Committee
Professional:

- Program Co-Chair
  - The IEEE International Workshop on Data Semantics for Multimedia Systems and Applications (DSMSA'08), held in conjunction with ISM'08

- Program Committee Member
  - The IEEE International Conference on Information Reuse and Integration
  - The International Workshop on Visual Languages and Computing

- The International Conference on Software and Data Technologies
- The IASTED Intl. Conference on Internet & Multimedia Systems & Applications

- Guest Editor
  - Journal of Multimedia, Selected Best Papers of IEEE-MIPR and IEEE-DSMSA

- Journal Reviewer
  - Information Sciences
  - Journal of Visual Languages and Computing
  - IEEE Computers

- **2009-2010**

Department: CS Nomination Committee (2009); Faculty Recruiting Committee (2009);
College: faculty-student relations committee (2009)
University: University Senate
Professional:

- Program Co-Chair
  - The First International Workshop on Pervasive Computing Systems and Infrastructures (PCSI 2009), Held in conjunction with TridentCom'09, 2009.

- Program Committee Member
  - The 2009 Visual Information Communications International Conference
  - The Annual ACM Symposium on Applied Computing - HCI Track
  - The IEEE International Conference on Information Reuse and Integration
  - The International Workshop on Visual Languages and Computing
  - The International Conference on Software and Data Technologies
  - The IASTED Intl. Conference on Internet & Multimedia Systems & Applications
  - The IASTED International Conference on Wireless and Optical Communications

- Guest Editor
  - Multimedia Tools and Applications Systems

- Journal Reviewer
  - International Journal of Software Engineering and Knowledge Engineering
  - International Journal of Computers and Applications

Juan Li

- **Research**
  - **2008 Calendar Year**

i. Refereed Publications

1. J. Li and S. Vuong, "SOON: A Scalable Self-Organized Overlay Network for Distributed Information Retrieval", in Proceedings of *the 19th IFIP/IEEE DSOM 2008,* Samos Island, Greece, September.

ii. Presentations

1. "Resource Discovery in Large-Scale Grids", invited presentation in BCNET 2008's BC's Students at the Forefront of Network Research. April, 2008, Vancouver, Canada.
2. "SOON: A Scalable Self-Organized Overlay Network for Distributed Information Retrieval", *the 19th IFIP/IEEE DSOM 2008,* Samos Island, Greece, September.

- **2009-2010 Calendar Year**

i. Refereed Publications

Journals:

1. **J. Li**, "Grid Resource Discovery Based on Semantically Linked Virtual Organizations", *Journal of Future Generation Computer Systems* – Elsevier, Volume 26, issue 3, 2010.
2. M. A. Aziz, S. Khan, T. Loukopoulos, P. Bouvry, H. Li, and **J. Li**, "An Overview of Achieving Energy Efficiency in On-chip Networks," *International Journal of Communication Networks and Distributed Systems*. 2010.
3. P. Lindberg, J. Leingang, D. Lysaker, S. Khan, and **J. Li**, "Comparison and Analysis of Eight Scheduling Heuristics for the Optimization of Energy Consumption and Makespan in Large-Scale Distributed Systems," *Journal of Supercomputing*. 2010.
4. **J. Li**, "Ontological Directory and Directory Load-Balancing for Large-Scale Grids", *International Journal of Computing & Information Technology*, Vol. 2, No 1, 2010.
5. **J. Li**, "Exploiting Social Property for Improving Distributed Semantic Search", *International Journal of Computer & Information Science*, Vol. 10, No.2, 2009.
6. **J. Li** and Y. Su, "A Framework for Efficient Query Answering on Semantically Heterogeneous Grids", *the International Journal of Computational Science*, Vol. 3, No. 4, 2009.

Conference proceedings:

7. **J. Li** and H. Wang, "Distributed Discovery of Semantic Relationships", *12th IEEE/IFIP Network Operations and Management Symposium* (NOMS 2010), 19-24, April 2010 Osaka, Japan.
8. P. Ranganathan, **J. Li** and K. Nygard, "A Multiagent oriented framework using ARM", *the 2nd International Conference on Computer Engineering and Technology* (ICCET 2010), April 16-18, 2010, Chengdu, Sichuan, China.
9. **J. Li** and S. U. Khan, "MobiSN: Semantics-based Mobile Ad Hoc Social Network Framework," *the IEEE Global Communications Conference* (Globecom 2009), Honolulu, HI, USA, December 2009.
10. **J. Li**, "Building Distributed Index for Semantic Web Data", *the 23rd IEEE International Conference on Advanced Information Networking and Applications* (AINA-09), Bradford, UK, 2009.
11. **J. Li** and Y. Su, "Bandwidth-Efficient Query Answering in Semantically Heterogeneous Grids*", the IEEE International Workshop on HPC and Grid Applications*, Sanya, China, April 2009.

Book Chapter:

12. **J. Li**, "Improving Distributed Semantic Search with Hybrid Topology and Peer Recommendation", a Chapter in Studies in *Computational Intelligence*, Springer, 2009.

ii. Presentations

1. "MobiSN: Semantics-based Mobile Ad Hoc Social Network Framework," in IEEE Global Communications Conference, Honolulu, HI, USA, December 2009.
2. "Building Distributed Index for Semantic Web Data", the 23rd IEEE International Conference on Advanced Information Networking and Applications, Bradford, UK, 2009.
3. "Bandwidth-Efficient Query Answering in Semantically Heterogeneous Grids", the IEEE International Workshop on HPC and Grid Applications, Sanya, China, April 2009.

iii. Funded Research Proposals

1. NDSU Advance Forward Travel Grant. 2009.
2. NDSU Advance Forward Travel Grant. 2010.

iv. Unfunded Proposals

1. NSF IIS, CDI-Type I: "Discovering Hidden Associations in Large Text Corpora and Heterogeneous Data."
2. NSF IIS, Small: "Discovering Hidden Associations in Large-Scale Distributed Text Corpora."
3. Recovery Act Limited Competition for NIH Grants: Research and Research Infrastructure "GO" Grant: "A User-centric, Efficient and Secure Healthcare Integration System."
4. NDSU Advance Forward Leap Research Grant: "Semantics-based mobile social network."
5. NDSU President's Community Projects Award.

v. Pending Research Proposals

1. Fonds National de la Recherche Luxembourg (FNR), ATTRACT, "Green-ICT: EnerGy, poweR, and thErmal –awarE data ceNter computatIons and CommunicaTions."

vi. Other Research Activities

Graduate students advising: (8 students, at least 1 hour each student per week) Mridula Sarker, Mousumi Tanha, Farzana Jahan, Satheesh Chakravarthi, Chao Liu, Peyman Emamian, Shweta Tiwari, Ranjana Sharma

- **Teaching**

• 2008			• 2009			• 2010		
Course #	# of students	Instructor Rating	Course #	# of students	Instructor Rating	Course #	# of students	Instructor Rating
426 626	18 1	4.417 5.000	724 746 790	39 10 3	3.906 4.700 5.000	724 738	38 8	

- **Service:**

2008

Professional

i. Program Committee of : The IEEE workshop DSMSA2008
ii. Refereeing: IEEE's Transactions on Parallel and Distributed Systems, IEEE Communications Letters

2009-2010

Department

i. Graduate Comprehensive Exam Committee
ii. Graduate Supervisory Committees (13 students)
Rajani Garimedi, Anshuman Manori, Satheesh Chakravarthi, Arijit Chatterjee, Durga Ramamurthy, Thilak Rajaraman, Venkata Kurapati, Qipeng Wu, Hari K Mukka, Shaminda Samaraweera, Chin Lua,Ushashi Chakraborty, Kareemullah Fazal
iii. Undergraduate students advising (9 students)

College

i. CSM Service & Outreach Committee

Professional

i. Program Committee of
1. The 15th DMS 2009, 2. IEEE DSMSA2009, 3. IEEE IWHGA 2010, 4. OPTIM'10, 5. CSO 2010, 6. IEEE TSP-10.
ii. Refereeing
1. IEEE's Transactions on Parallel and Distributed Systems, 2. IEEE Communications Letters, 3. Elsevier Computer Communications, 4. IEEE GLOBECOM 2009, 5. EURASIP Journal on Wireless, 6. Communications and Networking, 7. Informatica, 8. Journal of Systems and Software, 9. Journal of Supercomputing

Kenneth Magel

Research

Refereed

- "Software Localization: The Challenging Aspects of Arabic to the Localization Process", with S. Abufardeh, IASTED International Conference on Software Engineering, Innsbruck, Austria, Febrary 12 – 14, 2008.
- "QA/ Testing Bidirectional Languages Software: Issues and Challenges", with S. Abufardeh, COMPSAC'08, Turku, Finland, July, 2008.
- "Software Internationalization: Testing Methods for Bidirectional Software", with S. Abufardeh, NCM Fifth International Joint Conference on INC, IMS, and IDC, Seoil, Korea, August, 2009.
- "Software Internationalization: Crosscutting Concerns Across the Development Lifecycle", with S. Abufardeh, IEEE International Conference on New Trends in Information and Service Sciences, Beijing, China, June 30 – July 2, 2009.
- "Cu;turalization of Software Architecture: Issues and Challenges", with S. Abufardeh, International Congerence on Computer Science and Softwarer Engineering, Wuhan, China, February, 2009.
- "Impact of Global Software Cultural and Linguistic Aspects on Global Software Development Process: Issues and Challenges", with S. Abufardeh, accepted for the 4th International Conference on New Trends in Information Science and Service Science (NISS2010), Gyeongju, Korea, May 11 - 13, 2010

Research Proposals

Pending (I do not have the details because the hard drive on my primary computer crashed)

- One with Ken Nygard as Principal Investigator

- One to the NSF /CCLI program with Dean Knudson as principal investigator, Ken Magel and Gursimran Wallia as co-principal investigators.

Graduate Students

Completed.

Anuj Chauhan, M.S., August 19, 2008.
Sameer Abufardeh, Ph.D., November 13, 2008.
Oksana Myronovych, Ph.D., September 1, 2009.
Senad Cimic,, M.S., September 4, 2009
Naomi Takahashi, M.S., Febrary 26, 2010.

Supervisor

Falah Bouchaib, Ph.D., expected December, 2010.
Seven M.S. students.

Service

Department

- Associate Department Head, July 1, 2007 - present
- Developed Department Self Study Report for Program Review
- Chair, Faculty Recruiting Committee, August 20, 2005 – present
- Software Engineering Coordinator, July 1, 2002 – present
- Evaluate transfer equivalency for at least twenty requests each year
- Representative to the NDUS Common Course Computer Science Group
- Developed distance education version of Software Engineering Graduate Certificate
- Developed distance education versions of five courses as part of the Master of Software Engineering online program.
- Chair, B.S. Curriculum Review Committee, 2010 - present.
- Developed and graded the Software Engineering section of the Computer Science Comprehensive/Qualifier examination each semester
- Developed and coordinated the group grading of the Software Engineering Comprehensive/Qualifier examination each semester
- Developed extensive accreditation and assessment materials
- Visited with more than 12 prospective students each year
- Developed Department Annual Report analysis text
- Assessed at least eight graduate applications each year when requested by the Graduate COordinator

College

- Nominations and Awards Committee, October, 2005 – present; Chair August, 2007 - present
- Curriculum Committee, October, 1985 – present

University

- Faculty Personnel Committee, May, 2005 – May, 2009
- University Assessment Committee, July, 2006 – present
- Institutional representative to the Computing Research Association

Professional

- Referee for numerous conferences and journals
- Institutional Representative, Computing Research Association

Teaching

Spring, 2008

Course	Special	Title	Students	SROI
CSci 716 (3 credits)		Software Design	29	4.555
CSci 716 (3 credits)	Distance	Software Design	4	
CSci 790 (1 credit)	Seminar	Software Engineering	11	

Summer, 2008

Course	Special	Title	Students	SROI

Fall, 2008

Course	Special	Title	Students	SROI
CSci 713 (3 credits)		Introduction to Software Engineering	22	4.450
CSci 713 (3 credits)	Distance		5	
CSci 790 (1 credit)	Seminar	Software Engineering	7	

Spring, 2009

Course	Special	Title	Students	SROI
CSci 374 (3 credits)	New preparation	Computer Organization	36	4.233
CSci 716 (3 credits)		Software Design	4	4.562
CSci 716 (3 credits)	Distance		6	
CSci 790 (1 credit)	Seminar	Software Engineering	4	

Fall, 2009

Course	Special	Title	Students	SROI
CSci 713	Regular class	Software Dev. Processes	46	4.616
CSci 713	Distance	Software Dev. Processes	11	
CSci 715	Distance: New preparation	Requirements Engineering	3	
CSci 716	Distance	Software Design	4	
CSci 790	Seminar	Software Engineering	12	

Spring, 2010

Course	Special	Title	Students	SROI
CSci 713	Distance	Software Dev.	5	

		Processes		
CSci 715	Distance	Requirements Engineering	4	
CSci 716	Regular	Software Design	19	
CSci 716	Distance	Software Design	4	
CSci 790	Seminar	Software Engineering	16	

Oksana Myronovych

- **Research**

- **2008 Calendar Year**

  i. Other publications

  - *Web-Based Decision Support Systems as Knowledge Repositories for Knowledge Management System,* Ubiquitous Computing and Communications Journal (UBICC), V 3, Special Issue on IKE, 2008, pp. 22-29

  ii. Other Research Activities

  - Research related to the Doctoral Dissertation

- **2009 Calendar Year**

  i. Other publications

  - Modified Genetic Algorithm for Mutation-Based Testing, *WORLDCOMP'09 (The 2009 World Congress in Computer Science, Computer Engineering, & Applied Computing*, Date and Location: July 13-16, 2009, Las Vegas, USA (Paper ID #: SER6011)

  ii. Other Research Activities

  - Research related to the Doctoral Dissertation

  iii. Grants

  - Microsoft Corporation, MIX09, $1843.00.

- **2010 Calendar Year**

  i. Other publications

- Service-Orientation as a Trend in Contemporary Application Software Development, 5th Mid-West Association for Information Systems Conference, MWAIS 2010, May 21-22, 2010, Moorhead (submitted).

- Genetic Algorithm and Mutation Analysis for Software Testing, The 2010 World Congress in Computer Science, Computer Engineering, and Applied Computing, Software Engineering Research and Practice, SERP 2010, July 12-15, 2010, Las Vegas (submitted).

- **Achievements**

  - **PhD, Software Engineering, North Dakota State Univ. NDSU, 2009.**

  Grants
  - Microsoft Corporation, MIX09, $1843.00.

- **Teaching**

- **Spring 2008 (9 credits)**

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci228	41	4.0
CSci316	25	3.9
CSci371	11	4.42

- **Fall 2008 (10 credits)**

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci160	38	4.0
CSci172	9	4.0
CSci227	27	4.0

- **Spring 2009 (10 credits)**

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci160	33	4.1

CSci228	26	4.0
CSci316	34	4.2

d. Summer 2009 (3 credits)

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci122	44	3.27

e. Fall 2009 (7 credits)

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci160	41	4.5
CSci227	50	4.2

f. Spring – 2010 (13 credits)

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci159	31	
CSci160	36	
CSci316	46	
CSci228	43	

g. Summer 2010 (3 credits)

Course #	# of students	Instructor Rating "Instructor as a teacher"
CSci122		

Professional development:

Professional Conferences:

- *2009 International Conference on Software Engineering Research and Practice SERP'09*, 2009 World Congress in Computer Science, Computer Engineering & Applied Computing WORLDCOMP'09, July 12-16, 2009, Las Vegas, USA.
- *2009 Microsoft Web Design & Development Conference (MIX09),* March 17-20, 2009, Las Vegas, NV.

- *2009 MSDN Developer Conference*, January 13, 2009, Minneapolis, MN.

Professional Workshops:

- *Designing Online Instruction & Teaching Online*, January-February, 2009, Instructional Technology Services, MSUM.
- *Information Assurance Workshop on Software Security*, April 25, 2008, St. Cloud State University, St. Cloud, MN.

- **Service:**

2008 - Department

- Member of CS Department recruiting committee for Software Engineering tenure track positions.

2009 - Department

- Member of CS Department recruiting committee for a new Bioinformatics tenure track position.

2010 - Department

- Member of CS Department curriculum committee.

- **Membership:**
  - Member of Upsilon Pi Epsilon (UPE) - NDSU Chapter
  - Member of Association for Computing Machinery (ACM)

Kendall Nygard

Refereed Publications

Altenburg, K., M.Hennebry, J.Pikalek, and K. Nygard, Simian: A Multi-agent Simulation Framework for Decentralized UAV Task Allocation, ISAST Transactions on Intelligent Systems, 2008

Nygard, K., and M. Lundell, Research Directions for Cooperative Autonomous Systems, In Proceedings of the 11th International Conference on Humans and Computers, Nagaoka, Japan, November, 2008

Xiaojiang Du, Kendall E. Nygard, and Tie Wang, Dynamic p-cycle Construction within Link Capacity Constraint, Proceedings of the IEEE International Conf on Communications, Dresden, June, 2009

Nygard, K., M. Lundell, D. Xu, and J. Pikalek, Multi-agent Designs for Ambient Systems, in the Proceedings of the First International Conference on Ambient Media and Systems, 2008

Other publications

Lua, C., J. Tang, K. Altenberg, and K. Nygard, Adaptive Swarm Emergent Intelligent Methodologies, Development and Validation, 8th Int Conf on Cooperative Control and Optimization, January, 2008

J. Tang, D. Schesvold, J. Pikalek, K. Altenburg, and K. Nygard, Hierarchical Control for Forward Air Controller UAV Agents, 8th Int. Conference on Cooperative Control and Optimization, January, 2008

Presentations

There were presentations for each of the conference proceedings publications above

Funded Research Proposals

Designing Robust and Secure Heterogeneous Sensor Networks, PI, James Du Co-PI, DEPSCoR ARO, 9/08 – 8/11, $358,497

Key Management in Wireless Networks, Graduate Student Research Assistantship Award for Paul Loree, EPSCoR, 6/1/08 – 8/15/10, $33,392

Advanced Technologies in Logistics, PI, 1/1/2008 – 5/15/2008, $15,000

Faculty visitors from China program, PI, summer 2008, $9,000

2009-2010 Calendar Year

Refereed Publications

Ranganathan, P., and K. Nygard, Computer Based Teaching using Jing in Engineering Education, International Conference on Engineering Education, accepted and forthcoming, April, 2010

Ranganathan, P., and K. Nygard, A Bloom's Online Assessment Test to Assess Student Learning Outcomes in a Distance Engineering Education Course, International Conference on Engineering Education and Technology, accepted and forthcoming, July, 2010

Gagneja, K., X. Du, and K. Nygard, Enhanced robust routing amongst sensor nodes in Heterogeneous Sensor Networks, Proceedings of the Future Computing Conference, Athens, November, 2009

Sachdev, R., and K. Nygard, Genetic Algorithm for Clustering in Wireless ad hoc Sensor Networks, Third International Conference on Geosensor Networks, Oxford,, 2009

Loree, P., X. Du and K. Nygard, An Efficient Post-Deployment Key Establishment Scheme, for Heterogeneous Sensor Networks, IEEE GLOBECOM, Hawaii, 2009

Zhang, W., J. Tang, K. Nygard, and C. Wang, REPARE: Regenerator Placement and Routing Establishment in Translucent Networks, IEEE GLOBECOM, Hawaii, 2009

Zhang, Weiyi, Xiaojiang Du, Kendall Nygard, and Tie Wang, "Dynamic p-cycle Construction within Link Capacity Constraint", Proceedings of the IEEE International Conference on Communications, Dresden, June, 2009

Zhang, Weiyi, J. Kong, K. Nygard, and M. Li, Adaptive Pervasive Computing System Configuration Under QOS Constraints, Proceedings of the 6th IEEE Consumer Communications and Networking Conference, Las Vegas, January, 2009

W. Zhang, J. Kong, K. Nygard, and M. Li, Adaptive Pervasive Computing System Configuration Under QOS Constraints, Proceedings of the 6th IEEE Consumer Communications and Networking Conference, Las Vegas, January, 2009

Other publications

Moses, J., K. Altenberg, and K. Nygard, Strategies for Neutralizing Emergent Conflict Areas, First International Conference on the Dynamics of Information Systems, January, 2009

Presentations

There were presentations for each of the conference proceedings publications above

Funded Research Proposals

Self-healing Methodologies for the Smart Power Grid, U. S. Department of Energy, NDSU Center for Computationally Assisted Science and Technology (CCAST), PI, 3/15/10 – 10/15/10, $10,710

Securing Communications in Sensor Webs, PI, NASA UND, 5/15/09 – 4/14/10, $17,414

Effective Networking and Communication Systems for NASA Sensor Webs, PI, NASA EPSCoR, 5/1/09 – 4/15/09, $13,230

Efficient Communication and Security Schemes, NDSU Development Foundation, PI, 5/4/09 – 6/30/10, $1,000

Designing Robust and Secure Heterogeneous Sensor Networks, PI, James Du Co-PI, DEPSCoR ARO, 9/08 – 8/11, $358,497

Key Management in Wireless Networks, Graduate Student Research Assistantship Award for Paul Loree, EPSCoR, 6/1/08 – 8/15/10, $33,392

Advanced Technologies in Logistics, PI, 1/1/2009 – 5/15/2009, $15,000

Faculty visitors from China program, PI, summer 2009, $20,000

Advanced Technologies in Logistics, PI, 1/1/20109 – 5/15/2010, $7,500

Faculty visitors from China program, PI, summer 2010, $20,000

Unfunded Proposals

NSF IGERT program, $3,200,00 (Co-PI, Charlene Wolf-Hall, PI)

DEPSCoR program, $350,000 (Co-PI, James Du, PI)

Teaching

2008

Course #	# of students	Instructor Rating
CSci 418	~30	
CSci 489/689	~80	
CSci 783	~8	
CSci 790	20	
CSci 790	20	
CSci 473/773	27	
CSci 783	~4	
CSci 453/653	~8	
Educ 790	11	

2009

Course #	# of students	Instructor Rating
CSci 418	~25	
CSci 489/689	~85	
CSci 783	~8	
CSci 790	20	
CSci 790	20	

CSci 473/773	45	
CSci 453	~20	

2010

Course #	# of students	Instructor Rating
CSci 489/689	96	
CSci 790	20	

Service: 2008

Graduate Program Coordinator for the department
Invited featured speaker, 11th Int. Conf. on Humans and Computers, Nagaoka, Japan, November, 2008
Visited and spoke at a university in China and worked on developing a cooperative agreement with them
Referee for multiple technical papers for multiple journals
Hosted and developed workshops for 11 visiting faculty members from a college in China for workshops
Advisory Editor, Journal of Heuristics, 1994 –date
Departmental faculty recruiting committee
College PT & E committee
Departmental Curriculum committee
Departmental Assessment/accreditation committee
Award nominations committee
Panel reviewer, NSF S-STEM program
Major advisor for 9 MS students and 1 PhD student who completed in 2008
Faculty Advisor, Bangladeshi Student Association

2009-2010

Graduate Program Coordinator for the department
Visited and spoke at a university in China and worked on developing a cooperative agreement with them
Referee for multiple technical papers for multiple journals
Hosted and developed workshops for 11 visiting faculty members from a college in China for workshops
Advisory Editor, Journal of Heuristics, 1994 –date
Departmental Assessment/accreditation committee
Departmental Award nominations committee
Panel reviewer, NSF S-STEM program

Major advisor for numerous MS students who completed in 2009 and 2010
Faculty Advisor, Bangladeshi Student Association

William Perrizo

- Research
    - 2008 Calendar Year

Refereed Publications

1. "Vertical Data Mining on Very Large Database Systems", Information Science Journal, Volume IV, IGI Global Publishing Company, QA 76.9D37E52, 2008, pp2036-2041, William Perrizo, Qiang Ding, Qin Ding, T. Abidin.

2. "PARM - An Efficient Algorithm to Mine Association Rules from Spatial Data" IEEE Transactions of Systems, Man, and Cybernetics, V38:6, pp. 1513-1525, December, 2008, Qin Ding, Qiang Ding, William Perrizo.

3. "CARIBIAM: Constrained Association Rules using Interactive Biological IncrementAl Mining.", Int'l Journal of Bioinformatics Research and Apps (IJBRA), V4:1, pp28-48, I. Rahal, R Rahal, B.Wang, W. Perrizo.

4. "A Lossless Image Compression Technique Using Generic Peano Pattern Mask Trees", Int'l Conference On Computer Information Technology, Dhaka, Bangeladesh, Dec. 2008, H. Kabir, S. Imam, K. Hasan, W. Perrizo.

5. "Lossless Image Compression using Generic Peano Pattern Mask Tree", Conference Proceedings of ICCIT-2008 (Int'l Conf. on Computer and Info. Technology), Khulna, Bangeladesh, Dec. 25, 2008, M. Hossein, W. Perrizo.

6. "Data Mining Classification Using Parisot Correlation", Int'l Conf. Software Eng. and Data Eng., LA, June, 2008, W. Perrizo.

7. "Parisot Correlation in Bus. Intelligence", Int'l Conf. on Software Eng. and Data Eng., LA, June, 2008, W. Perrizo, A. Perera.

Presentations

The 4 conference paper presentations listed above.

Funded Research Proposals (title, PI/Co, duration, amt, source).

1. NDSU University Distinguished Professorship Research Award, PI, 2008, $5,000, NDSU Office of the President
2. 6th Virtual Genomics and Bioinformatics Conference, PI, 2008, $17,684, NSF BIO.

Unfunded Proposals

1. Toward a Unified Theory of Parallel Data Mining, NSF, PI on $253,017.00 NDSU sub to UARK PI P. Tang.
2. Trucking Database, Dept. of Homeland Security, CoPI, PI J. Mitchel, Trucking DB Inc., $15,000,000.
3. IAD Archival Data Ext., Asses., Pres. Infrastr., NSF CISE/CCF, sub PI on NDSU, PI N. Tabrizi, E. Carolina U.

Graduate student advisees completed

Phd:

1. Dr. Maria Canton, "Classification of Spatial Data Using Attribute Level Methods", Ph.D., 2008

2009-2010 Calendar Year

Refereed Publications

1. "Enhanced SMART-TV: A Classification with Vertical Data Structures and Dimensional Projections Pruning", The Internetworking Indonesian Journal, Volume 1, Number 2, pp. 3-10, 2009, A. Abidin, W. Perrizo.

2. "DAVYD: an iterative Density-based Approach for clusters with Varying Densities". International

Journal of Computers and Their Applications, V17:1, pp. 1-14, March 2010, E. Wang, I. Rahal, W. Perrizo.

3. "Jewels, Himalayas and Fireworks, Extending Methods for Visualizing N Dimensional Clustering", International Conference on Computers and Their Applications, March, 2010, W. Jockheck, W. Perrizo

4. "Novel Combinatorial Score for P-Tree Feature Sel.", Soft. Eng. and Data Eng., 2010, June, 2010, Y. Yang, T. Lu, W. Perrizo.

5. "Extention Study on Item-Based P-Tree Correlaborative Filtering Algorithm", International Conference on Computers and Their Applications, March, 2010, T. Lu, Y. Wang, A. Perera, G. Wettstein.

6. "Bidirectional String Matching Algs in Text Mining", Accepted, IADIS Info. Systems, Feb., 2010, A. Chatterjee, W. Perrizo.

7. "Correlation Regression Extended to AR in MBR", Accepted, IADIS Info. Systems, Feb., 2010, A. Chatterjee, W. Perrizo

8. "Gene Function Prediction", ISCA Int'l Conf. on Software Eng. and Data Eng., July, 2009, Las Vegas, W. Perrizo, A. Perera.

9. "Universality of NN Sets for Predictions", Soft. Eng. & Data Eng., July, 2009, T. Lu, W. Perrizo, A. Perera, G. Wettstein, 2009.

10. "An Evolutionary Nearest Neighbor Classification and :Prediction Framework", Proc. of International Conference on Software Engineering and Data Eng., July, 2009, A. Perera, D.G.N. Dayaratne, W. Perrizo, 2009.

11. "Experimental Study on Item-based Ptree Collaborative Filtering", Proc. of International Conference on Software Engineering and Data Eng., July, 2009, T. Lu, W. Perrizo, A. Perera, Y. Wang, G. Wettstein, 2009.

Presentations

The 9 conference paper presentations as listed above.

Funded Research Proposals (title, PI/Co, duration, amt, source)

1. NDSU University Distinguished Professorship Research Award, P.I., 2008, $5,000, NDSU Office of the President

Graduate student advisees completed

Masters

1. Arijit Chatterjee, "String Matching, Correlation Regression and Maximum Likelihood Applied to ARM", 2009.

Other Research Activities

1. U.S. Patent 7,640,219 B2 was issued (W. Perrizo, inventor) entitled "Parameter Optimized Nearest Neighbor Vote and Boundary-based Classification", December 29, 2009.

Teaching

- 2008

Course #	# of students	Instructor Rating
479 Spring 2008	5	See Dept records?
679 Spring 2008	12	See Dept records?
765 Fall 2008	57	See dept records?

- 2009

Course #	# of students	Instructor Rating
479 Spring 2009	5	See dept records?

679 Spring 2009	17	See dept records?
766 Spring 2009	5	See dept records?
783 Fall 2009	12	See dept records?
765 Fall 2009	55	See dept records?

- 2010

Course #	# of students	Instructor Rating
785 Spring 2010	12	
765 Spring 2010	16	

Service:

2008

Department
Computer Science Department Bioinformatics Curriculum Committee
Computer Science Bioinformatics Recruiting Committee
Computer Science Department Graduate Program Fall Semester Comprehensive Examination Committee
Computer Science Department Graduate Program Spring Semester Comprehensive Examination Committee

College
College of Science and Mathematics Mission, Vision, and Goals Development Committee

University
Center for High Performance Computing Advisory Board
Virtual Conference on Genomics and Bioinformatics Organization Committee
Virtual Conference on Genomics and Bioinformatics Conference and Program Chair
University Distinguished Professorship Committee
Genomics and Bioinformatics Interdisciplinary Degree Program Board Member

Professional
Associate Editor, Journal of Computational Intelligence in Bioinformatics, JCIB
Associate Editor, Bioinformation Journal
Board of Directors of the International Society of Computers and Applications
Program Committee on 7 International Conferences
Referee for 5 journals

Community
Northern Plains Ethics Institute "Gown Group" Member

2009-2010

Department
Computer Science Department Bioinformatics Curriculum Committee
Computer Science Department Graduate Program Fall Semester Comprehensive Examination Committee
Computer Science Department Graduate Program Spring Semester Comprehensive Examination Committee

College
College of Science and Mathematics Mission, Vision, and Goals Development Committee
College of Science and Mathematics Promotion, Tenure and Evaluation Committee

University
Center for High Performance Computing Advisory Board
University Distinguished Professorship Committee
Genomics and Bioinformatics Interdisciplinary Degree Program Board Member
Center for High Performance Computing Director Search Committee

Professional
Associate Editor, Journal of Computational Intelligence in Bioinformatics, JCIB
Associate Editor, Bioinformation Journal
Program Committee and referee for 8 International Conferences
Refereed for 3 journals

Richard Rummelt

Research
2008 Calendar Year

Research Activities

Work on PhD dissertation, Dr. Jun Kong advisor. *Petri Net / UML Modeling and Analysis of Security Threats for Design Phase Mitigation*

- 2009-2010 Calendar Year
  i. Pending Proposals

Richard Rummelt (senior personnel), Tariq M. King (PI), "Collaborative Research: Itegrating Testing into CS-I thru CS-III with the Support of a Web-Based Testing Repository". Agency: NSF. Program: CCLI. Amount requested: $173,000 for 3 years. Collaborative proposal with Dr. Peter J. Clark (PI-FIU $367,000 requested) and Djuradj Babich (PI-MDC $58,000 requested).

ii. Research Activities

Work on PhD dissertation, Dr. Jun Kong advisor. *Petri Net / UML Modeling and Analysis of Security Threats for Design Phase Mitigation*

Teaching
2008

Course #	# of students	Instructor Rating
CSci-160 - 6387	41	4.227
CSci-160 - 6389	44	4.226
UNIV-189 - 6673	14	4.521
UNIV-189 - 6676	28	4.280
CSci-160 - 4951	42	4.355

CSci-160 - 4952	40	3.816

2009

Course #	# of students	Instructor Rating
CSci-160 - 4507	40	4.114
CSci-160 - 4511	41	3.967
UNIV-189 - 5021	17	N/A
UNIV-189 - 5027	27	N/A
CSci-160 – 4452	40	4.183
CSci-160 - 14636	14	3.982
CSci-160 - 18869	10	N/A

2010

Course #	# of students	Instructor Rating
CSci-116 - 11490	94	N/A
CSci-160 - 9874	43	N/A
CSci-160 – 13678	28	N/A
CSci-116 - 10089	N/A	N/A
CSci-116 - 3491	N/A	N/A
CSci-160 - 5357	N/A	N/A
CSci-160 - 5363	N/A	N/A

Service:

2008

Department

- Recruiting/Advising – Regularly met potential students and their parents to promote the Computer Science undergraduate program.

- 'Partnered' with new junior faculty to assist them in conducting meetings with potential students and their parents.

College

- Faculty Advisor: Upsilon Pi Epsilon International Honor Society for the Computing Sciences

- Faculty Advisor: NDSU ACM Student Chapter

University

- Assisted in coordination of the Chinese Teachers' Training Seminars
- Assisted the Athletic Department in the successful recruiting of a highly talented football player who is interested in computer science.

- Faculty Advisor: Sri Lankan Student Association

Professional

- Paper Review: The 12th World Multi-Conference on Systemics, Cybernetics and Informatics: WMSCI
- Paper Review: The 14th International Conference on Information Systems Analysis and Synthesis: ISAS 2008

Community

- Judge – North Dakota State Science Fair

2009-2010

Department

- Supervision and mentoring of Computer Science Graduate teaching assistants.

- Recruiting/Advising – Regularly met potential students and their parents to promote the Computer Science undergraduate program.

- 'Partnered' with new junior faculty to assist them in conducting meetings with potential students and their parents.
- Attended the Prentiss Hall Symposium for Information Technology Educators in Chicago, Illinois

- Attended the Course Technology Conference in Tampa, Florida

- Member of the Curriculum Development Committee

- Member of 'Teaching Free Semester' Review Committee.

College

- Faculty Advisor: Upsilon Pi Epsilon, International Honor Society for the Computing Sciences

- Faculty Advisor: NDSU ACM Student Chapter

University

- Assisted in coordination of the Chinese Teachers' Training Seminars

- Faculty Advisor: Sri Lankan Student Association

- Established an inter-departmental committee to coordinate Computer Science 'Business use of Computer' course content with the College of Business requirements.

Saeed Salem

- Research
  - 2008 Calendar Year
    i. Refereed Publications

Refereed Journals:

1- V. Chaoji, M. A. Hasan, S. Salem, J. Besson, M. Zaki, **ORIGAMI: A Novel and Efficient Approach for Mining Representative Orthogonal Graph Patterns**, in *Journal of Statistical Analysis and Data Mining*, **1**(2), pp. 67-84, 2008

2- V. Chaoji, M. A. Hasan, S. Salem, M. Zaki, **An Integrated, Generic Approach to Pattern Mining: Data Mining Template Library**, in

Journal of Data Mining and Knowledge Discovery, **17**(3), 2008

Refereed Conferences and Workshops/Abstracts:

1- S. Salem, M. Zaki, **Iterative Non-Sequential Protein Structural Alignment**, *7th Annual International Conference on Computational Systems Bioinformatics (CSB), 2008, Stanford, CA*

2- V. Chaoji, M.A. Hasan, S. Salem, M. Zaki, **SPARCL: Efficient and Effective ShaPe-baseD Clustering**, *IEEE International Conference on Data Mining, 2008, Pisa, Italy*

3- V. Ramakrishnan, S. Salem, S. Srinivasan, S.J. Matthews, M. Zaki, W. Colón, and C. Bystroff, **GeoFold: A mechanistic model to study the effect of topology on protein unfolding pathways and kinetics**, *Abstract in 3Dsig: Structural Bioinformatics & Computational Biophysics Satellite Meeting, an ISMB satellite meeting, 2008, Toronto, Canada*

ii. Presentations

1- S. Salem, M. Zaki, **Iterative Non-Sequential Protein Structural Alignment**, *7th Annual International Conference on Computational Systems Bioinformatics (CSB), 2008, Stanford, CA*

- 2009-2010 Calendar Year
  i. Refereed Publications

Refereed Journals:

1- M.A. Hasan, S. Salem, M. Zaki, **SimClus: Clustering with lower bound on Similarity**, *Knowledge and Information Systems Jouranl*,2010 **(Accepted)**

2- S. Salem, M. Zaki, C. Bystroff, **FlexSnap: Flexible Non-sequential Protein Structural Alignment**, BMC *Algorithms for Molecular Biology Journal*, **5**(12), 2010

3- A. Qureshi, V. Chaoji, D. Maiguel, M. H. Faridi, C.J. Barth, S. Salem, M. Singhal, D. Stoub, B. Krastins, M. Ogihara, M. J. Zaki and V. Gupta, **Proteomic and Phospho-proteomic Profile of Human Platelets in Basal, Resting State: Insights into Integrin Signaling,** *PLoS ONE* , **4**(10), 2009.

4- S. Salem, M. Zaki, C. Bystroff, **SNAP: Iterative Non-Sequential**

Protein Structural Alignment, *Journal of Bioinformatics and Computational Biology*, **7**(3), pp. 571-596, 2009

5- M. A. Hasan, V. Chaoji, S. Salem, M. Zaki, **Robust Partitional Clustering by Outlier and Density Insensitive Seeding**, *Pattern Recognition Letter*, **30**(11), pp. 994-1002, 2009

6- V. Chaoji, M.A. Hasan, S. Salem, M. Zaki, **SPARCL: Efficient and Effective ShaPe-baseD Clustering**, *Knowledge and Information Systems Jouranl*, **21**(2), pp. 201-229, 2009

Refereed Conferences:

1- S. Salem, M. Zaki, C. Bystroff, **FlexSnap: Flexible Non-Sequential Protein Structural Alignment**, *The 9th International Workshop on Algorithms in Bioinformatics (WABI), 2009, Philadelphia, PA*

2- M.A. Hasan, S. Salem, B. Pupacdi, M. Zaki, **Clustering with lower bound on Similarity**, *Pacific-Asia Conference on Knowledge Discovery and Data Mining, 2009, Thailand*, **Best Paper Award**

ii. Other publications

iii. Presentations

S. Salem, M. Zaki, C. Bystroff, **FlexSnap: Flexible Non-Sequential Protein Structural Alignment**, *The 9th International Workshop on Algorithms in Bioinformatics (WABI), 2009, Philadelphia, PA*

iv. Funded Research Proposals (title, PI and co-pi's, duration, amount, source)

v. Unfunded Proposals

vi. Pending Proposals

vii. Graduate student advisees completed

Masters

Phd

Shadi BaniTaan (Ongoing)

viii. Other Research Activities

- Teaching
  - 2009

Course #	# of students	Instructor Rating
CSCI 474	26	Q2: 4.36

  - 2010

Course #	# of students	Instructor Rating
CSCI 758	10	N/A
CSCI 790 (Denton/Salem)	7	N/A

- Service:

2009-2010

Department

(Jan. 21010—present), Department Curriculum Committee

Attending Department meetings

College

University

Judge: 2010 North Dakota State Science & Engineering Fair

Professional:

Reviewer: IEEE Transactions on Knowledge and Data Engineering, April, 2010

Program Committee:

9th International Workshop on Data Mining in Bioinformatics
(BIOKDD '10), July 25-28 2010, Washington, DC, USA.

Held in conjunction with the 16th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD'10)

Program Committee: the 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining, June 2010 - Hyderabad, India.

Program Committee, the 15th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, **June 28th-July 1st, 2009, Paris, France**

Brian Slator

Books and Creative Works

McClean, Phil, Brian M. Slator, Alan R. White, Christina Johnson, Daniel Reetz (2009). Through the Virtual Cell. Screened at the South Beach International Animation Festival. Miami Beach, FL, March 26-29. Noreen LeGault, Festival Organizer. See http://www.imdb.com/title/tt1370799/. First Place Prize: Educational.

Journals

Borchert, Otto, John Reber, Bernhardt Saini-Eidukat, Brian M. Slator (submitted 2009). Computer Supported Collaborative Learning in a Virtual Geology World. Journal of Instructional Science. Springer-Verlag.

Refereed Conference Papers

El Ariss, Omar, Dianxiang Xu, Santosh Dandey, Bradley Vender, Phil Mcclean and Brian M. Slator (Accepted 2009). A Systematic Capture and Replay Strategy for Testing Complex GUI based Java Applications. Proceedings of the 7th International Conference on Information Technology : New Generations (ITNG 2010). IEEE Computer Society/CPS (IEEE Conference Publishing Services). April 12-14, Las Vegas, Nevada, USA.

Foertsch, Robert and Brian M. Slator (Accepted 2009). The Null Server: A Model for Server Farm System Security. The Midwest Instruction and Computing Symposium. University of Wisconsin. Eau Claire, WI. April 16-17.

Schlecht, Nem W., Brian M. Slator, Phillip McClean (2009). Usage of a Web-Based Factorial Experiment Testing System (FETS). The Midwest Instruction and Computing Symposium. South Dakota School of Mines and Technology. Rapid City, SD. April 17-18.

Hill, Curt, Brian M. Slator (2009). Captured Presentations for Online Learning. The Midwest Instruction and Computing Symposium. South Dakota School of Mines and Technology. Rapid City, SD. April 17-18.

Hokanson, G., Borchert, O., Slator, B. M., Terpstra, J., Clark, J. T., Daniels, L. M., Anderson, H. R., Bergstrom, A., Hanson, T. A., Reber, J., Reetz, D., Weis, K. L., White, R., & Williams, L. (2008). Studying Native American Culture in an Immersive Virtual Environment. Proceedings of the IEEE International Conference on Advanced Learning Technology (ICALT-2008). IEEE Computer Society Press. Santander, Spain. July 1-5. Pg. 788-792.

Book Chapters

Borchert, Otto, Lisa Brandt, Guy Hokanson, Brian M. Slator, Bradley Vender, Eric J. Gutierrez (Accepted 2009). Principles and Signatures in Serious Games for Science Education, in Gaming and Cognition: Theories and Practice from the Learning Sciences Edited by: Richard Van Eck. IGI Global. pp. 315-341.

Slator, Brian M., Otto Borchert, Lisa Brandt, Harold Chaput, Kellie Erickson, Gabriel Groesbeck, Jacob Halvorson, Justin Hawley, Guy Hokanson, Dan Reetz, Brad Vender (2008). From Dungeons to Classrooms: the evolution of MUDs as learning environments. Edited by L.C. Jain, Evolution of Technology and Pedagogy. Studies in Computational Intelligence (SCI) 62, pp. 119-159. Springer-Verlag, Germany.

Refereed Abstracts

Daniels, Lisa, Otto Borchert, Guy Hokanson, Jeff Clark, B. Saini-Eidukat, Don Schwert, Brian Slator, Jeff Terpstra. (2009). Effects of Immersive Virtual Environments on Student Achievement and Confidence. Proceedings of the American Educational Research Association Annual Meeting (AERA-09). April 13-17. San Diego.

Education Animations

McClean, Phil, Alan White, Brian M. Slator (two in 2009). Signaling Pathways: Insulin Signaling, Protein Recycling, (three in 2008). Protein Modification, Constitutive Secretion, Regulated Secretion (animation: Gerald Gallenbeck, Christina Johnson, narration, editing: Christina Johnson), Copyright: NDSU Worldwide Web Instructional Committee (WWWIC).

Publicity

Wikipedia – Entry on "Word Sense Disambiguation"
Cited in the 'References' as co-author of first book, "Electric Words". Referenced 7/20/08. See http://en.wikipedia.org/wiki/Word_sense_disambiguation

It's Happening at State. "NDSU photosynthesis video ranked No. 1 on YouTube", July, 14, 2008.

A.4 Presentations (list date, group presented to, title of presentation)

Five in 2008

10/8/2009 – NDSU Collaborative Technology Conference – presentation on "Immersive Learning Environments – what we've learned"

Honors and Awards: Prior Awards, Still Current (during 2008-2009)

2009-2012 National Science Foundation (CCLI) No. DUE-0918955, to Dr. Phil McClean, PI, Brian M. Slator and Alan R. White, Broadening the Accessibility and Portability of Biology Animations, 3 years, $494,900

2006-2009 National Science Foundation (CCLI) No. DUE-0618766 to Dr. Phil McClean, PI, Lisa Daniels, Brian M. Slator, Jeff Terpstra, and Alan R. White, Visualization in Biology Education, 3 years, $452,355

2006-2010 National Science Foundation (S-STEM). No. DUE-0631126 to Dr. Kendall Nygard, PI, Charles Harter, Rajendra Katti, Brian M. Slator, Collaborative for Scholarships in Computing, Information Sciences, and Engineering, 4 years, $463,200

Honors and Awards: Prior Awards (Expired in 2008-2009)

2006-2008 National Science Foundation (Geo-Ed) No. GEO-0608082 to Dr. Brian M. Slator, PI, Lisa Daniels, Bernhardt Saini-Eidukat, Donald P. Schwert, and Jeff Terpstra, Pilot Project: Research on Serious Games for Geoscience Education, 2 years, $149,984

2005-2008 National Science Foundation (NSF-IMD) No. ESI- 0454767 to Dr. Lisa Daniels, PI, Dr. Jeffrey Clark, Dr. Donald P. Schwert, and Dr. Brian Slator. Instructional Materials for Teaching Science through Virtual Environments: 3 years, $727, 280

Proposals Submitted – Declined or Pending:

Eight in 2009, Eight in 2008

B. Service:

CS-MIS (1998-present). Committee member, Management Information Sciences (MIS) Steering Committee, Jospeph Latimer, Chair.

Graduate Leaders Forum (2007-present). Monthly meeting of the NDSU department heads/chairs with the Dean of the Graduate School

B.4 Profession:

10/26/2009 SBIR/STTR Phase II EA: Education Application Review Panel - National Science Foundation at 4201 Wilson Blvd, Arlington, VA, 22203

08/13/2008 - SBIR/STTR Phase I SS: Human Computer Review Panel - National Science Foundation at 4201 Wilson Blvd, Arlington, VA, 22203

C. Teaching (list courses by semester including credit hours and numbers of students)

CS790 Seminar every semester (avg. 12-18 students), CS345 every Spring (avg. 25-25 students)

Graduate Student Progress

a) as major professor (completed) two in 2008
b) as major professor (ongoing) three current
c) as examining committee member (completed) one in 2009
d) as examining committee member (ongoing) three current

Undergraduate Student Mentorship

Robert Foertsch, undergraduate system administrator

Department Head Activities (Jan 1, 2008 – December 31, 2009)

Fifteen in 2008
2/10/2009 – Hosted the Departmental visit by Dr. Chapman and Dr. Schnell, IACC 258C
2/11/2009 – Youth Entrepreneurial Task Force Meeting, Reimers Rm. Alumni Center
3/2/2009 – Program Review on-site inspection
3/4/2009 – Met CSM PTE Committee, Dr. Jun Kong 3rd Year Review
April-May, 2009 – Hired Gursimran Walia, Tariq King, Saeed Salem, and Chengui Yan
4/29/2009 – Hosted State Historical Society of North Dakota Homestead Project Group
5/8/2009 – Luncheon, Dr. Toni Schmader, the Science of Unconcsious Bias
5/11/2009 – Myers Summer Research Planning – MU, Lark Room
5/13/2009 – Program Review, committee meeting
6/8-7/17/2009 – Governors School – Business/Entrepreneurial Section
Five more in 2009

Vasant Ubhaya

1. **RESEARCH:**

Publications (refereed):

(1) Lipschitzian Operators in Best Approximations by Bounded or Continuous Functions, Encyclopedia of Optimization, Springer-Verlag, New York, Berlin, September 2008.

(2) Regression by Special Functions: Algorithms and Complexity, Encyclopedia of Optimization, Springer-Verlag, New York, Berlin, September 2008.

(3) **(Invited paper)** An O(n) algorithm for weighted least squares regression by integer quasi-convex and unimodal or umbrella functions. (with M.-H. Liu), Computers and Mathematics with Applications, an International Journal, Volume 58, 2009, 776-783.

Research and other proposals:

Submitted but not funded:

(1) **Research:** "Discovering Computational Structures in Architecture", Preliminary proposal, National Science Foundation, DMR – Division of Materials Research, $456,506, 6/5/2008 – 8/14/2010, PI: Ganapathy Mahalingam, Co-PI: Vasant Ubhaya.

Graduate students: Current MS advisee: Naveen Vinta. Supervisory Committee member for several graduate students: Christopher Beseman (Ph.D.), Ahana Ghosh (MS), Barjesh Arora (7/29/09), Annaji Ganti (MS 5/15/09), Dietmar Dorr (Ph.D. 8/19/08), Sireesha Ganapa (MS 5/2/08), Sritej Perubhotla (MS 3/20/08), Anoop Kheerwal (MS 3/14/08), Sumantha Tadasina (MS 11/21/07), Arunprakash Ayyarswamy (MS 11/26/07), Abu S. Khalique (MS 7/30/07), Srinivas Challagolla (MS 4/20/07), Amal Parera (Ph.D. 6/28/07), Ravi Kumar (MS 4/30/07).

TEACHING :

Courses and evaluations:

Semester	Course Title	Number	Credits	Evaluations		Enrol
				Instruction	Instructo r	
SP 08	Discrete Mathematics	CSCI 222	3	4.35	4.40	39
SU 08	Dynamic Programming	CSCI 760	3	5.00	4.50	3
F 08	Discrete Mathematics	CSCI 222	3	4.19	4.08	40
F 08	Assembly Programming	CSCI 373 (new prep.)	3	3.65	3.69	45
SP 09	Discrete Mathematics	CSCI 222	3	3.96	4.00	31
SP 09	Assembly Programming	CSCI 373	3	4.06	4.06	32
SU 09	Algorithm Analysis	CSCI 741	3	4.63	4.63	8
F 09	Discrete Mathematics	CSCI 222	3	4.10	4.10	42
F 09	Assembly Programming	CSCI 373	3	3.79	3.97	42
SP 10	Discrete Mathematics	CSCI 222	3			39
SP 10	Assembly Programming	CSCI 373	3			35

Students' comments on courses:

- Allowing students to ask any questions is a very good thing. Vasant -> Good teacher.
- Very useful course, instructor has shown great ability to solve complex problems in easier way.
- Great course: graduate level! Instructor: Smart guy. I think I am lucky to take this course from Dr. Ubhaya.
- Very good instructions.

- He is one of the greatest instructor. He is very patient and nice & I really learn the course material. Thank You!!!
- One of the best teachers at NDSU.
- Fun class.
- Can tell instructor is very smart when it comes to course material.
- Very good class, well-taught, could have homework worth a bit more percentage of final grade.
- Prof is very knowledgeable & willing to help.
- I believe that Prof. Vasant is a very good teacher…
- Very good teacher.
- Very good class. I enjoyed the assignments. I felt prepared for the exams. He is really good and helpful. He explains everything very clearly. This class was fun and learning together.
- Try to get the class more drawn into the material; use the board more, less slides.
- At first, I thought Discrete Math was going to be very hard class, but it turned out to be interesting. I do have a better understanding of it.
- He is a great teacher & Always open to questions & Smart dude.
- …Very good learning environment.

SERVICE:

Department:

- Faculty Recruiting Committee, sometimes chair, sometimes member
- Departmental PT&E Committee, sometimes chair, sometimes member.
- Took initiative to replace CSci 708 (Foundations of Programming), a core course in the graduate program, by the more relevant and interesting course Csci 741 (Algorithm Analysis).
- Curriculum Committee, member
- Graduate Admissions Committee member.
- Supervisory Committee member for several graduate students. See under RESEARCH.
- Departmental liaison with the library for acquisition of Comp. Sc. and Operations Res. books and journals.

Profession:

Technical Referee: For several journals such as the Journal of Computer and System Sciences, Journal of Approximation Theory, Constructive Approximation, Computers and Mathematics with Applications - an International Journal, Annals of Statistics, Computational Statistics and Data Analysis, International Journal of Mathematics and Mathematical Sciences, Journal TEST, International Journal of Computer Mathematics. Also for ACM SAC BIO track papers.

Gursimran Walia

- Research
  - 2008 Calendar Year (at Mississippi State University)
    i. Refereed Publications

1. Walia, G., and Carver, J. "STUDENT PAPER: The Effect of the Number of Defects on Estimates Produced by Capture-Recapture Models," *Proceedings of the 19th IEEE International Symposium on Software Reliability Engineering*. November 10-14, 2008. Seattle, WA, USA. p. 305-306.
2. Walia, G., and Carver, J. "Evaluation of Capture-Recapture Models for Estimating the Abundance of Naturally Occurring Defects." *Proceedings of the 2nd ACM-IEEE International Symposium of Empirical Software Engineering and Measurement*. October 9-10, 2008. Kaiserslautern, Germany. p. 158-167.
3. Walia, G., Carver, J. and Nagappan, N. "The Effect of the Number of Inspectors on the Defect Estimates Produced by Capture-Recapture Models."

Proceedings of the 30th International Conference on Software Engineering. May 10-18, 2008. Leipzig, Germany. p. 331-340.

- 2009-2010 Calendar Year
  - i. Refereed Publications

    1. Walia, G., and Carver, J. "A Systematic Literature Review to identify a classify Software Requirement Errors." *Information and Software Technology*, Vol. 51, No.7. (July 2009), pp. 1087-1109.

    2. Walia, G., and Carver, J. "Evaluating the Effect of the Number of Naturally Occurring Faults on the Estimates Produced by Capture-Recapture Models," *Proceedings of the 2009 International Conference on Software Testing, Verification, and Validation*. April 1-4, 2009. Denver, CO, USA. p. 210-219.

    There are several papers under review and in progress.

  - ii. Presentations

    1. Walia, G., and Carver, J. "Evaluating the Effect of the Number of Naturally Occurring Faults on the Estimates Produced by Capture-Recapture Models," *Proceedings of the 2009 International Conference on Software Testing, Verification, and Validation*. April 1-4, 2009. Denver, CO, USA. p. 210-219.

  - iii. Pending Proposals

    1. Source: National Science Foundation: Human-Centered Computing (NSF 09-557):
       Title: ***Collaborative Research: Integrating Software Engineering and Cognitive Error Models to Improve Software Quality***;
       PI: Gursimran Walia (NDSU) and PI Jeffrey Carver (UA) ;
       Amount Requested: $217,118 over a period of three years
    2. Source: National Science Foundation : CCLI - Type 2 (NSF 09-529):
       Title: ***Improving Computer Science Capstone Project Experiences***;
       PI: Dean Knuson, Co-PI: Gursimran Walia, and Kenneth magel
       Amount Requested: $596,267 over a period of three years

  - iv. Graduate student advisees completed

    1. *Yashwant Potla (Major Advisor: Dr. Jun Kong)*
    2. *Sri Harsha Yampala (Major Advisor: Dr. Kendall Nygard)*
    3. *Hari Mukka (Major Advisor: Dr. Kendall Nygard)*

  - v. Graduate student advisees Ongoing

    - Kaustubh Saxena (M.S. Thesis)
      - *Thesis Topic: Investigating the Use of Capture Recapture Models in Estimating the Defects Remaining after Software Testing [Expected Graduation year: 2010]*
    - Alex Radermacher (M.S. Thesis)
      - *Thesis Topic: An Empirical investigation of the Knowledge Deficiencies in Computer Science Graduating Students [Expected Graduation year: 2010-11 (also planning to pursue PhD afterwards)]*
    - James Brewer (PhD Dissertation)

- *Candidate Dissertation Topic: Characterize Pair-Programming Research Applicability to the Concept of Side-By-Side Partner Engineering*

- Ramakanth Annadi (M.S. Thesis)
  - *Thesis Topic: Application of Gestalt Principles to Improve User's Browsing Experience on handheld Devices [Expected Graduation Year: 2011]*

- Ramakanth Annadi (M.S. Thesis)
  - *Thesis Topic: Application of Gestalt Principles to Improve User's Browsing Experience on handheld Devices [Expected Graduation Year: 2011]*

- Sana Rehman (Master's Paper)
  - *Topic: Improving the Cost Effectiveness of Software Inspections [Expected Graduation Year: 2010-11]*

- Haribabu Bavanari (Master's Paper)
  - *Tentative Topic: Improving the Web Browsing Experience for the* NDSU Canola Pathology program [*Expected Graduation Year: 2011]*

- Serving as the advising Committee member on Dr. Jun Kong, and Dr. Ken Nygard's Master and PhD students.

vi. Other Research Activities

- Started the ***Empirical Software Engineering Research group*** at North Dakota State University in fall 2009. The first meeting was held on September, 14 of Fall 2009 that outlined its mission and objectives.

- Travelled to NSF office and meet with NSF officers in the Creative *IT research program* and the *Human-Centered Computing (HCC) Program* to discuss the Collaborative research proposals.

- Teaching
  - 2009

Course #	# of students	Instructor Rating
CS-315	52	3.756

  - 2010

Course #	# of students	Instructor Rating
CS-783	9	TBD

- Service:

2009-2010

Department: *NSF review panel for CSE REU site on December 7 and December 8 at National Science Foundation Office*

College: University senate meeting (3:30 pm, Monday, November 2009, Memorial Union, Plains room) [filled in for Dr. Jun Kong's Absence]

University: *NSF review panel for CSE REU site on December 7 and December 8 at National Science Foundation Office*

Professional: Reviewer for *Software Quality Journal*, *Information Sciences Journal*, and *The International Symposium on Empirical Software Engineering and Measurement Conference*

Changhui Yan

Research

2009-2010 Calendar Year

- Refereed Publications

  1. Marco Alvarez and Changhui Yan, Exploring structural modeling of proteins for kernel-based enzyme discrimination. In proceedings of *IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB) 2010*, Montreal, CANADA

  2. Jingru Luo and Changhui Yan, A comparison between transmembrane helices and reentrant loops. *In proceedings of IEEE International conference on Bioinformatics and Bioengineering (BIBE) 2010*, Philadelphia, USA

- Other Research Activities

  1. Carried on the research on protein structure prediction in collaboration with Dr. Yu Cao in California State University at Fresno.
  2. Carried on the research on MicroRNA analysis in collaboration with Dr. Jing Hu in Franklin & Marshall College.
  3. Submitted 3 journal articles to scientific journals in the field of bioinformatics.

Teaching

2010

Course #	# of students	Instructor Rating
Comp. Sci. 374	40	

Service:

2009-2010

1. Participate in monthly department meetings
2. Participate in the discussion and meetings on bioinformatics curriculum.

3. Review papers for the bioinformatics journal

Weiyi Zhang

RESEARCH

2008 Calendar Year

Refereed Publications

[1] Weiyi Zhang, Guoliang Xue, Jian Tang, and Krishnaiyan Thulasiraman; Faster Algorithms for Constructing
Recovery Trees Enhancing QoP and QoS; *IEEE/ACM Transactions on Networking*; Vol. 16 (2008), pp. 642-655.

[2] Guoliang Xue, Weiyi Zhang, Jian Tang, and Krishnaiyan Thulasiraman; Polynomial Time Approximation Algorithms for Multi-Constrained QoS Routing; *IEEE/ACM Transactions on Networking*; Vol.16 (2008), pp. 656-669.

[3] Weiyi Zhang, Guoliang Xue, Jian Tang, and Krishnaiyan Thulasiraman; Dynamic Wavelength Routing in WDM Networks under Multiple Signal Quality Constraints; *IEEE Globecom'2008*; New Orleans.

Presentations

IEEE Globecom'2008; "Dynamic Wavelength Routing in WDM Networks under Multiple Signal Quality Constraints"

Funded Research Proposals
Cross-Layer Design for Reliable Communications in the InterPlaNetary Internet;
PI: Jun Kong, Co-PI: Weiyi Zhang
Duration: October 15, 2008 - April 30, 2009; Amount: $11,612
Funding source: NASA EPSCoR Seed Grants

Unfunded Research Proposals

[1] *Multi-Constrained Quality of Service Provisioning in Multimedia Heterogeneous Wireless Sensor Networks*; PI: Xiaojiang Du, Co-PI: Weiyi Zhang, Kendall Nygard
Funding source: DoD EPSCoR

[2] *Joint-Layer Design for Efficient Quality of Service Provisioning and Communications in Hybrid Wireless Networks* PI: Xiaojiang Du; Co-PIs: Weiyi Zhang, Hongxiang Li Funding source: NSF-CNS-NeTS

[3] *Automatic and Continuous Monitoring of Food Safety and Preserving of Food Identity Using Wireless Technologie*s; PI: Weiyi Zhang; Co-PIs: Dean Knudson, Charlene Wolf-Hall;
Funding source: ND Agricultural Experiment Station (NDAES)

2009-2010 Calendar Year
Refereed Publications

[1] Weiyi Zhang, Jun Kong, Kendall Nygard and Ming Li; Adaptive Design of Pervasive Computing System under QoS Constraints; *International Journal of Computers and Applications*; Accepted for publication.

[2] Roberto Hincapie, Jian Tang, Guoliang Xue, Weiyi Zhang and Roberto Bustamante; Fair Bandwidth Allocation in Wireless Mesh Networks with Cognitive Radios; *IEEE Transactions on Vehicular Technology*;

Accepted for publication.
[3] Jian Tang, Guoliang Xue, and Weiyi Zhang; Cross-layer optimization for end-to-end rate allocation in multi-radio wireless mesh networks; *ACM Wireless Networks (WINET)*; Vol. 15, Issue 1, January 2009, pp. 53-64.

[4] Hongxiang Li, Lingjia Liu and Weiyi Zhang; Cooperative Transmission - From Single Network to Hybrid Network; *International Journal of Digital Multimedia Broadcasting*; Accepted for publication.

[5] Jian Tang, Li Zhang, Richard S. Wolff, Weiyi Zhang; Leveraging Cognitive Radios for Effective Communications Over Water; *IEEE SECON'2010*, Accepted (acceptance ratio 23%).

[6] Weiyi Zhang, Jian Tang, Chonggang Wang, and Shanaka de Soysa; Reliable Adaptive Multipath Provisioning with Bandwidth and Differential Delay Constraints; *IEEE INFOCOM'2010* (acceptance ratio: 276 out of 1575, 17.5%), Accepted for publication.

[7] Weiyi Zhang, Farah Kandah, Jian Tang and Kendall Nygard; Interference-Aware Robust Topology Design in Multi-Channel Wireless Mesh Networks; *IEEE CCNC'2010*; Accepted for publication.
[8] Hongxiang Li, Weiyi Zhang and Siva Vanteru; OFDMA Resource Allocation and QoS Provision in Hybrid Wireless Network; *IEEE VTC'2010: IEEE 71th Vehicular Technology Conference*; Accepted for publication.

[9] Weiyi Zhang, Xiaojiang Du, Kendall Nygard and Tie Wang; Self-protecting Networking using Dynamic p-cycle Construction within Link Capacity Constraint; *IEEE ICC'2009*.

[10] Weiyi Zhang, Jun Kong, Kendall Nygard and Ming Li; Adaptive Configuration of Pervasive Computing System with QoS Consideration; *IEEE CCNC'2009*.

[11] Weiyi Zhang, Jian Tang, Kendall Nygard and Chonggang Wang; REPARE: Regenerator Placement and Routing Establishment in Translucent Networks; *IEEE Globecom'2009*

[12] Li Zhang, Jian Tang and Weiyi Zhang; Strong Barrier Coverage with Directional Sensors; *IEEE Globecom'2009*

[13] Weiyi Zhang and Jun Kong; Distraction-free Service in Pervasive Environments Based on Multi-Constrained QoS Routing; *IEEE NISS'2009*

Presentations

IEEE INFOCOM'2010, Mar. 18, 2010, San Diego, CA; Session chair, presenter
IEEE CCNC'2009; Jan. 9, 2009, Las Vegas, NV; Presenter
IEEE GLOBECOM'2009, 3 Dec., 2009, Honolulu, HI; Session chair, presenter
IEEE ICC'2009, 15 Jun., Dresden, Germany; Presenter

Funded Research Proposals

[1] *Development of a Hybrid Wireless Network Infrastructure for Integrated Research and Education*
NSF Major Research Infrastructure (MRI) Program (09-01-2009 to 08-31-2012)
Amount: $198,851 ($ 109,426 at NDSU)
PI: Xiaojiang Du (Temple University), Co-PI: Weiyi Zhang, Aaron Reinholz

[2] *Robust Hybrid Wireless Network Coverage for Rural Public Safety*
ND **NSF** EPSCoR Infrastructure Improvement Programs (IIP) (07-01-2009 to 06-30-2011)
Amount: $82,600
PI: Weiyi Zhang
1.2.4 Unfunded Proposals

[1] *WiMAX-based testbed for Public Safety Monitoring in Rural Areas*
NSF CNS Computing Research Infrastructure (CRI) Program

PI: Weiyi Zhang; Co-PI: Jun Kong

[2] *SEAMAN: An Integrated System of Sensor Web and Mobile Ad Hoc Network for Rural Public Safety*
ND **NASA** EPSCoR Graduate Student Research
PI: Weiyi Zhang

[3] *Joint-layer Design for Reliable Rural Public Safety Coverage in Hybrid Sensor Web Networks*
ND **NASA** EPSCoR Faculty Seed Research
PI: Weiyi Zhang

[4] *Joint-layer Design for Reliable Rural Public Safety Coverage in Hybrid Sensor Web Networks*
ND **NASA** EPSCoR Travel Award
PI: Weiyi Zhang

[5] *Effective coordination for public safety support*
NDSU Community Projects Award;
PI: Weiyi Zhang

Pending Research Proposals

[1] *Relay Placement and Resource Allocation for WiMAX-based Mesh Networks*
NSF Division of Computer and Network Systems (CNS);
Research in Networking Technology and Systems (NeTS) Program
PI: Weiyi Zhang

[2] *CPS:Small:Collaborative Research:Towards QoS Routing in Smart Grids*
NSF Division Division of Electrical, Communications and Cyber Systems (EECS);
Cyber-Physical Systems (CPS)
PI: Weiyi Zhang

[3] *Human-Centric Adaptive Multimodal Interface Design in the Pervasive Environment*
NSF Division of Information & Intelligent Systems (IIS); Human-Centered Computing (HCC) Program
PI: Jun Kong; Co-PI: Weiyi Zhang

[4] *Joint Hardware-Software Design of Secure* & *Self-Organizing Embedded Systems*
ND Federal Government Relations (FGR) Program
PI: Kendall Nygard; Co-PI: Weiyi Zhang, Xiaojiang Du, Rajendra Katti, Chao You

[5] *THINKERS for Tomorrow's Problems in Food Logistics and Security*;
PI: Charlene Wolf-Hall, Co-PIs: Margaret Khaitsa,Denver Tolliver, Kendall Nygard, Weiyi Zhang, etc.
Funding source: NSF IGERT

[6] *Robust WiMAX-based Testbed for Public Safety Monitoring*
NSF Division of Computer and Network Systems (CNS);
Major Research Instrumentation (MRI) Program
PI: Weiyi Zhang; Co-PI: Dean Knudson; Jun Kong; Kendall Nygard

TEACHING

A) Spring 2008, CSci 785:Wireless Network and Mobile Computing.
number of student: 13; Instructor rating: 5.000

B) Fall 2008
B.1) CSci 477: Objected-Oriented Systems.
number of student: 21; Instructor rating: 4.941
B.2) CSci 677: Objected-Oriented Systems.
number of student: 2; Instructor rating: N/A

C) Spring 2009

C.1) CSci 476: Computer Forensics.
number of student: 14; Instructor rating: 4.250
3
C.2) CSci 676: Computer Forensics.
number of student: 10; Instructor rating: 4.625
C.3) CSci 785: Wireless Network and Mobile Computing.
number of student: 13; Instructor rating: 5.000

D) Summer 2009, CSci 785:Wireless Network and Mobile Computing.
number of student: 3; Instructor rating: 5.000

E) Fall 2009
E.1) CSci 477: Objected-Oriented Systems.
number of student: 15; Instructor rating: 4.545
E.2) CSci 677: Objected-Oriented Systems.
number of student: 8; Instructor rating: 5.000

F) Spring 2010
F.1) CSci 459: Foundations of Computer Networks.
number of student: 32; Instructor rating: N/A
F.2) CSci 659: Foundations of Computer Networks.
number of student: 7; Instructor rating: N/A
F.3) CSci 785: Wireless Network and Mobile Computing.
number of student: 17; Instructor rating: N/A

SERVICE
Year 2008

Department
. **Chair**, Course Fee Committee
. **Committee Member**, Teaching Free Semester Committee

Professional

A) Journal Reviewer:
Elsevier Journal of Computer Networks (Jan. 2008)
Springer Journal of Mobile Networks and Applications (Mar. 2008)
Transactions on Mobile Computing (Apr. 2008)
Springer Journal of Global Optimization (Jun. 2008)
IEEE/ACM Transactions on Networking (Sep. 2008)
IEEE Transactions on Computers (Oct. 2008)
IEEE Journal on Selected Areas in Communications (Nov. 2008)

B) Conference Committee:
SensorCom'2008, Chinacom'2008, ACM MSWiM'2008, IEEE Globecom'2008

Year 2009-2010
Department
. **Chair**, Course Fee Committee
. **Committee Member**, Faculty Recruiting Committee
. **Committee Member**, Teaching Free Semester Committee

Professional
Journal Reviewer:
- IEEE/ACM Transactions on Networking
- IEEE Journal on Selected Areas in Communications;
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Wireless Communications
- IEEE Transactions on Vehicular Technology

- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Communications Letters
- IEEE Signal Processing Letters
- OSA Journal of Optical Networking
- Elsevier Journal of Computer Networks
- Elsevier Journal of Adhoc Networks
- Wiley Journal of Wireless Communications and Mobile Computing
- Springer Journal of Mobile Networks and Applications
- EURASIP Journal on Wireless Communications and Networking

Conference Organizations:
- TPC Chair of InternationalWorkshop on Pervasive Computing Systems and Infrastructures (PCSI'2009), Washington DC, April 6-8, 2009.
- Finance Chair of IEEE IWQoS'2009, Charleston, SC, July 13-15, 2009.
- Publicity Chair of IEEE WoWMoM Workshop on Autonomic and Opportunistic Communications (AOC'2010), Montreal, Canada, June 2010.
- TPC Member of major conferences, including IEEE INFOCOM(2010), IEEE WCNC (2010), IEEE GLOBECOM (2009-2010), IEEE ICC (2009-2010), ACM/IEEE MSWiM (2009)

C. OUTREACH

2. Professional Service:

The Department continues to be very active in service to the profession. Most faculty regularly review for conferences and journals. Seven faculty reviewed for a national funding agencies. Three faculty review Ph.D. dissertations internationally.

Department of Computer Science Recruitment & Outreach Activities

(July 1, 2009- June 30, 2010)

ONGOING

Meet with Prospective Students during campus visits [Joan Krush, Ken Magel, Richard Rummelt, Brian Slator, Vasant Ubhaya]. During 2009-10, more than sixty such visits were conducted.

Association for Computing Machinery (ACM) NDSU Chapter Faculty Advisor [Richard Rummelt, Max Zhang]

Upsilon Pi Epsilon (UPE) NDSU Chapter Faculty Advisor [Tariq King, John Martin, Richard Rummelt]

Advisory Committee for the Smart Technology Institute, a special project of the Greater Fargo-Moorhead Economic Development Corporation (GFMEDC) [Kendall Nygard]

SEPTEMBER

Engineering & Technology Career Expo [Joan Krush, Ken Magel, Brian Slator]

Minneapolis College Fair [Joan Krush]

OCTOBER

Speed Majoring Career Event on campus [Joan Krush]

Microsoft site visit [Hyunsook Do, Jun Kong, Joan Krush, Wei Jin, Jen Li, Brian Slator, Gursimran Walia, Max Zhang]

NOVEMBER
West Fargo HS Career Event [Joan Krush]

Graduate Recruitment Fair Event [Joan Krush, Brian Slator]

Met with Josh Boschee (Career Services) regarding resources and needs for CS majors [Joan Krush]

Meet John Jasper and Bolder Thinking Group, Stevens Hall [Brian Slator]

FEBRUARY
Spring Career Fair

CS Department Reception with area industry representatives [Tariq King, Dean Knudson, Joan Krush, Brian Slator, Vasant Ubhaya, Gursimran Walia, Changhui Yan]

Longfellow School Math Fair [Anne Denton]

ND Science Teachers Assoc (NDSTA) Spring Conference (February 26-27) at Bismarck State College, presented a software demonstration [Brian Slator]

MARCH
RediscoverU Event [Joan Krush]

Capstone course mid-semester presentations to industry [Dean Knudson]

APRIL
Mailed personal welcome letter to admitted CS majors. Signed by B. Slator [Joan Krush]

Science Fair Judge [Saeed Salem]

State Science & Engineering Fair (April 8) 'Mobile Social Networks' Demo [Jen Li & grad student]

Microsoft MORE Workshop [Anne Denton, Jen Li, Joan Krush] – 12 NDSU students attended

Discover NDSU Days Activity Fair (April 16, 17) [Joan Krush]

College of Science & Math Honor's Day (April 24) [Brian Slator]

ND Science Olympiad; Facilitator for the "Compute This" event [Saeed Salem]

MAY
Upsilon Pi Epsilon (UPE) Induction Ceremony – 12 new honors inductees [Tariq King, Richard Rummelt, Sameer Abufardeh]

Capstone course final presentations to industry [Dean Knudson]

3. Alumni Events and other community related activities:

The Department continues to expand our efforts to reach alumni.. We have a web site that we hoped would be a resource for alumni, but it is not used very much. We created a new

Departmental Web Site which has gotten rave reviews, especially by those who remember our previous web site.

At the urging of our College Dean, the Department started a newsletter during 2007-08. We have received some favorable comments from alumni and hope to continue to expand on relationships with our alumni.

The department continues to foster relations with area businesses, in particular Microsoft Great Plains. Two social/technical events were held in the past year, one at each site.

3. Fund-raising accomplishments and other outreach activities:

We received a little over $3,300 from alumni and friends this academic year in money and equipment. We need to do better. During the next academic year, we will make an effort to contact successful alumni. Our goal is to increase alumni giving to $25,000 per year within five years.

4. Cooperative Education:

Placement Summary Fall 2009

Student	Employer	Job Type
Aakula, Srikanth	Creative Care for Reaching Independence, CCRI Moorhead, MN	Full-time Coop
Agarwal, Abhishek	Intelligent Insites, Fargo, ND	Part-time Coop
Bapanpally, Pavan	TEKPROS; Dallas TX	Full-time Coop
Bhargava, Anirudh	H2M; Fargo, ND	Full-time Coop
Bhomick, Dibakar	NAVTEQ, Fargo, ND	Full-time Coop
DeSoysa, Shanak	Frontier Trust company/Ascensus; Fargo, ND	Part-time Coop
Mahoo, Christopher	SEI, Fargo, ND	Full-time Coop
Manori, Anshuman	NAVTEQ, Fargo, ND	Part-time Coop
Mittel, Naman	Phoenix International Corp – A John Deere Co; Fargo, ND	Full-time Coop
Mukhami, Sudesh	Noridan Mutual Ins.urance Company Fargo, ND	Full-time Coop
Pradeep, Amaran, NFN	NAVTEQ, Fargo, ND	Full-time Coop
Pillarikuppam, Naresh	Lawson Software; St. Paul, MN	Part-time Coop
Raavi, Sandeep	Blue Cross Blue Shield of ND Fargo, ND	Part-time Coop
Raidu, Venkata	Agri ImaGIS	Full-time Coop

	Teachnologies, Fargo, ND	
Sambaraju, Sharath	Lighthouse Energy Trading; Fergus Falls, MN	Full-time Coop
Sheoran, Deepak	Orion Integrated Biosciences, Inc New Rochelle, NY	Full-time Coop
Suravarapu, Vijay	Agri ImaGIS Teachnologies, Fargo, ND	Full-time Coop
Takahashi, Naomi	Collabera Fargo, ND	Full-time Coop
Tanha, Mousumi	NAVTEQ, Fargo, ND	Full-time Coop
Yadav, Anshul	Internet Brands El Eqgundo, CA	Part-time Coop

Placement Summary Spring 2010

Student	Employer	Job Type
Bindra, Dhruv	Global Systemss LLC; Dallas, TX	Full-time Coop
Dass, Pranav	Ecliptic Technologies Inc. Fargo, ND	Full-time Coop
Mahoo, Christopher	SEI, Fargo, ND	Full-time Coop
Mattaparthy, Harika	Wells Fargo Bank Fargo, ND	Full-time Coop
Mudgal, Akshay	Red River Software Fargo, ND	Full-time Coop
Pradeep, Amaran, NFN	NAVTEQ, Fargo, ND	Full-time Coop
Pillarikuppam, Naresh	Lawson Software; St. Paul, MN	Part-time Coop
Rehman, Sana	NAVTEQ, Fargo, ND	Full-time Coop
Samaraweera, Shaminda	NAVTEQ, Fargo, ND	Full-time Coop
Tanha, Mousumi	UND Center for Instructional and Learning Technologies Grand Forks, ND	Full-time Coop
Tiwari, Shweta	NAVTEQ, Fargo, ND	Full-time Coop
Vanteru, Siva	Industrial Automation Group Modesto, CA	Full-time Coop

Placement Summary Summer 2010

Student	Employer	Job Type
Ahuja, Sarthak	Hazer's Auto & Truck Parts West Fargo, ND	Part-time Coop
Chakravarthi, Satheesh	Northern Contours Fergus Fall, MN	Full-time Coop
Christian, Benjamin	Digi-Key Corp	Full-time Coop

	Thief River Falls, MN	
Dass, Pranav	Ecliptic Technologies Inc. Fargo, ND	Full-time Coop
Emamian, Peyman	Pedigree Technologies Fargo, ND	Full-time Coop
Guduru, Srinivas	The CE Shop Fargo, ND	Full-time Coop
Jaidev, Akanksha	International Marketing System, Fargo, ND	Full-time Coop
Knight, Zachary	Info Tech – Minot Technology Center Minot, ND	Full-time Coop
Kondoor, Dinesh	Rockwell Collins Cedar Rapids, IA	Full-time Coop
Lin, Yong-Sheng	Phoenix International Fargo, ND	Full-time Coop
Mahoo, Christopher	SEI, Fargo, ND	Full-time Coop
Nordie, Jeffrey	The Toro Company Bloomington, MN	Full-time Coop
Rehman, Sana	NAVTEQ, Fargo, ND	Full-time Coop
Samaraweera, Shaminda	NAVTEQ, Fargo, ND	Full-time Coop
Sen, Sourya	The Toro Company Bloomington, MN	Full-time Coop
Sikharam, Sandeep	Bolder Thinking LLC Fargo, ND	Full-time Coop
Tiwari, Shweta	NAVTEQ, Fargo, ND	Full-time Coop

D. SPECIAL INITIATIVES

Fall 2009 and Spring 2010 CoCISE Awards

Lname	Fname	Spring-2010-Award	GPA	Award-Fall-2009	Fall-Survey	Gender	Race	Major	Standing	
Seefeldt	Jon	$1,500	2.824	$1,500	Y	male	White	CE		
McIntosh	Justin	$1,500	2.833		New	male	White	CE	Freshman	
Mayer	John	$1,500	2.889		New	male	White	CE	Sophomore	
Kastl	Thomas	$1,500	3.556		New	male	White	CE	Freshman	
Lynch	Andrew	$1,500	3.608		New	male	White	CE	Senior	
Krebsbach	Nickolas	$1,500	3.763	$1,500	Y	male	Native American Indian/Native Alaskan	CE	Sophomore	
Hoffert	Adam	$1,500	3.862	$1,500	Y	male	White	CE	Senior	
Pierson	Mindy	$1,500	4.000		New	female	White	CE		

Reetz	Shane	$1,500	2.750		New	male	White	CS	Freshman	
Rensberger	John	$1,500	2.756		New	male	White	CS	Sophomore	
Bredahl	Joseph	$1,500	3.149	$1,500	Y	male	White	CS	Junior	
Frueh	Ryan	$1,500	3.183		New	male	White	CS	Junior	
Lindhag	Nicholas	$1,500	3.183		New	male	White	CS	Junior	
Phelps	Bryan	$1,500	3.235	$1,500	Y	male	White	CS	Junior	
Ladwig	Andrew	$1,500	3.489		New	male	White	CS	Sophomore	
Rogers	Wesley	$1,500	3.533	$1,500	Y	male	White	CS	Sophomore	
Devney	John	$1,500	3.563	$1,500	Y	male	White	CS	Incoming Freshman	
Christian	Benjamin	$1,500	3.649	$1,500	Y	male	White	CS	Junior	
Delaney	Michael	$1,500	3.792	$1,500	Y	male	White	CS	Sophomore	
Andersen	Zechariah	$1,500	4.000		New	male	White	CS	Freshman	
Hein	Ella	$1,500	4.000		New	female	White	CS	Freshman	
Huynh	Uy	$1,500	4.000	$1,500	Y	male	Asian/Pacific Islander	CS	Freshman	
Krumm	Tanya	$1,500	4.000		New	female	White	CS	Freshman	
Duale	Ismail	$1,500	2.784	$1,500	Y	male	African American/Black	MIS	Senior	
Van Dame	Katie	$1,500	2.882	$1,500	Y	female	White	MIS	Freshman	
Erbentraut	Eric	$1,500	2.902		New	male	White	MIS	Junior	
Peterson	Daniel	$1,500	2.989	$1,500	Y	male	White	MIS	Junior	
Mohamed	Omran	$1,500	2.990	$1,500	Y	male	African American/Black	MIS	Senior	
Jansen	Brian	$1,500	3.034	$1,500	Y	male	White	MIS	Senior	
Garner	Christopher	$1,500	3.090		New	male	White	MIS	Junior	
Conway	Darren	$1,500	3.250	$1,500	Y	male	White	MIS	Senior	
Emerson	Zachary	$1,500	3.250	$1,500	Y	male	White	MIS	Junior	
Schepers	John	$1,500	3.264	$1,500	Y	male	White	MIS	Senior	
Abdi	Yusuf	$1,500	3.321	$1,500	Y	male	African American/Black	MIS		
Towey	Melanie	$1,500	3.467	$1,500	Y	female	White	MIS	Sophomore	
Rasmussen	Kevin	$1,500	3.486	$1,500	Y	male	White	MIS	Junior	
Anderson	Kirby	$1,500	3.538	$1,500	Y	male	White	MIS	Senior	
Jackson	Abram	$1,500	3.683		New	male	White	MIS	Senior	
Beaty	Elliott	$1,500	3.806	$1,500	Y	male	White	MIS	Junior	
Maslesa	Moamer	$1,500	3.841	$1,500	Y	male	White	MIS	Sophomore	
Hebl	Joseph	$1,500	3.910	$1,500	Y	male	White	MIS	Senior	

1. <u>Cooperation programming/Interinstitutional activities</u>:

We are active participants in several interdisciplinary efforts. Our faculty are significant members of the interdisciplinary graduate program in Genomics and Bioinformatics. One of our largest research groups, Use of Technology in Education, involves faculty and students from

departments across this campus. Our cooperation with Electrical and Computer Engineering in offering three undergraduate courses continues well into its third decade.

2. International activities:

We continue to build relationships with Chinese academics. For the third straight year, Chinese faculty will visit the Department for three weeks during the summer. We were an active participant in the effort to offer academic programs for hundreds of Chinese students in Fergus Falls. We developed a proposal for a 2 and 2 twinning program with Chinese universities.

In 2009-10, we worked to soldify a cooperative 3+2 agreement with ZJEPT, a Chinese university. Ken Magel and Joan Kruse prepared three detailed curriculum layouts for this proposal which were shared with the President of ZJEPT and other Chinese faculty during their visit to our campus. Here is one of those three layouts:

Computer Science Major (B.S.) – Course Plan for ZJETP transfer students
****NEW B.S. Requirements expected Fall 2011***
-list includes coursework applicable to NDSU; includes only the ZJETP courses required to satisfy NDSU requirements. There is room for ZJETP to insert their other courses where they need them.

Y1 Fall	Cr.hrs.	Y1 Spring	Cr.hrs.
Political Theories		Political Sociology	3
+Music		Introduction to Psychology	3
ZJETP: Business Use of Computers (CSCI 114: Microcomputer Packages)	3	CSCI 122: Visual Basic (ZJETP: Visual Basic)	3
+Pre-Calculus		+Calculus I	3
Calligraphy		Intro to Database Systems	3
		Calligraphy	
Y2 Fall		Y2 Spring	
ZJETP: Discrete Structures I (CSCI 222: Discrete Mathematics)	3	ZJETP: Discrete Structures II (CSCI 335: Theoretical Computer Sci)	3
ZJETP: Computer Science I (CSCI 160: Computer Science I)	3	ZJETP: Computer Science II (CSCI 161: Computer Science II)	3
ZJETP: Web Application Programming I (CSCI 371: Web Scripting Languages)	3	ZJETP: Web Application Programming II (CSCI 473:Found. of Digital Enterprise)	3

+Physics I (Calculus-based, with laboratory)		+Physics II (Calculus-based, with laboratory)	
ZJETP: Data Structure & Algorithms	3	ZJETP: Structured Systems A&D (CSCI 315:Systems Analysis & Design)	3
Calligraphy		+Wellness (NDSU: HNES 200 Principles of Nutrition)	3
		Calligraphy	
Y3 Fall		Y3 Spring	
ZJETP: Comp Hdware, Data Comm & Network (CSCI 374:Comp Organization & Architecture)	3	ZJETP: Operating Systems Concepts (CSCI 474: Operating Systems Concepts)	3
ZJETP: Advanced Database Issues (CSCI 366:Files for Database Systems)	3	ZJETP: Principles of Software Engineering (CSCI 413: Principles of Software Engineering)	3
ZJETP: Foundations of Computer Networks (CSCI 459: Foundations of Computer Networks)	3	ZJETP: Data Structure & Algorithms	3
ZJETP: Programming Languages		ZJETP: Advanced Computer Networks	
ZJETP: Management Information Systems			

Y4 FALL – NDSU		Y4 SPRING – NDSU	
CSCI 372: Comparative Languages	3	CSCI 313: Development Lifecycle	3
MATH 166: Calculus II	4	ENGL 120: College Composition II	3
ENGL 110: College Composition I	3	CSCI 467: Algorithm Analysis	3
CSCI 213: Modern Software Tools	3	General education (Add'l Hum/SociSci)	3
General education (Hum/FineArt)	3	General education (Soci/BehSci)	3
	16		15
Y4 SUMMER – NDSU			
Y5 FALL– NDSU		Y5 SPRING– NDSU	
CSCI elective I	3	STAT 368: Statistics	3
Science elective	3	Science elective	3
STAT 367: Probability	3	CSCI 445: Software Projects Capstone	3
General education (Add'l Hum/SociSci)	3	CSCI 489: Social Implications of Computers	3
COMM 110: Public Speaking	3	General education (Add'l Hum/SociSci)	3
Upper Level Writing Course ENGL 321 or 324	3		
	18		15

Transfer Courses – Applying to BS degree

NDSU		ZJETP
UNIV 189: Skills for Academic Success	1	waived
CSCI 160: Computer Science I	4	Computer Science I
CSCI 161: Computer Science II	4	Computer Science II
CSCI 222: Discrete Math	3	Discrete Structures I
CSCI 335: Theoretical Computer Sci I	3	Discrete Structures II
Wellness	3	HNES 200 from ZJTEP
CSCI 374: Computer Organization & Architecture	3	Computer Hardware, Data Communication & Networking
CSCI 366: Files for Database Systems	3	Advanced Database Issues
CSCI Elective I (CSCI 459)	3	Foundations of Computer Networks
CSCI Elective II (CSCI 473)	3	Web Application Programming II
CSCI 474: Operating Systems Concepts	3	Operating Systems Concepts

Our existing twinning relationships with the Ansal Institute in India and with Cairo University in Egypt continue. In 2008-09, we started a graduate student exchange program with the International Institute for Information Technology in India. This program continues.

4. Interdisciplinary activities:

The NDSU Computer Science Department is the largest and most prominent department of its kind over a wide geographical area that includes all of North and South Dakota and much of Manitoba, Montana and Minnesota. Given the increasingly prominent role of computing and information technology in our society, it is also of high importance for the Department to grow and thrive, producing well-educated computing professionals. We believe that our graduates do leave the university well prepared and that they are competitive anywhere in the country.

The Department fully participates and supports the goal of the university to become a Carnegie research extensive university. During 2009-10, the Department awarded three Ph.D. and twenty-eight M.S. degrees (September 1, 2009 through June 30, 2010 only). If summer is counted as well, the totals would increase significantly in both M.S. and Ph.D. graduates.

5. Economic Development Efforts:

The Department faculty met with several companies during 2009-10. As mentioned above, Microsoft visited campus on a number of occasions, and continues to fund undergraduate and graduate scholarships and fellowships for several students. Dr. Magel, Dr. Nygard, and Dr. Knutson attended meetings with Microsoft Business Solutions. Dr. Nygard is a member of a Greater Fargo-Moorhead Development effort to develop a technology center in this area.

E. PLANNING

The fundamental strength of the Department lies in the rigor of its academic programs. The B.S. degree, in particular, is by far the most rigorous in the region. Although difficult, the programs are well supported by faculty and open opportunities for our graduates. Major future plans have been basically described elsewhere in the report, but are succinctly summarized as follows:

- In research and within graduate programs, strengthen and expand in network security, information assurance, bioinformatics, and software engineering,. Continue to maintain excellence in core areas of computer science.
- At the undergraduate level, develop a program that is a more applied alternative to the BS degree in computer science for students intending to enter the job market with a bachelor's degree. The program would expand existing elements of software engineering and information systems.
- Improve the quality of M.S. and Ph.D. students while reducing the total number of graduate students We hope to have 100 - 120 oncampus and 40 - 70 distance education graduate students within five years.
- Diversify funding sources and the number of faculty receiving external funding
- Continue to foster international programs, such as the ones underway with China, Egypt and India.
- Expand departmental research funding and reputation
- Take steps to become a designated Center of Excellence in Information Assurance and Security.

F. Enrollment and FTE Data

Student Credit Hours and FTEs Generated

	2005-2006		2006-2007		2007-2008		2008-2009		2009-2010	
	Credit hours	**FTE**	**Credit hours**	**FTE**	**Credit hours**	**FTE**	**Credit hours**	**FTE**	**Credit hours**	**FTE**
100-200	7769	9.71	8468	10.59	9128	11.42	8911	11.14	9458	11.82
300-400	1806	3.32	2172	3.99	2638	4.85	2697	4.96	3031	5.57
600-700	1791	6.22	1743	6.05	2005	6.96	2004	6.96	2253	7.82
TOTAL	11366	19.25	12383	20.63	13773	23.23	13612	23.06	14742	25.22

SUMMER II SCHEDULE
2009

COURSE HOURS	CLASS TITLE	INSTRUCTOR	ENROLL	STUDENT CREDIT
160	Computer Science I	R. Rummelt	10	4
741	Algorithm Analysis	V. Ubhaya	8	3
774	Topics of Digital Enterprise	K. Nygard	13	3
785	Computing Architure	M. Zhang	3	3

797	Master Paper	Staff	7	1-10
797R	Master Paper – *cont registration*	Staff	9	R
798	Master Thesis	Staff	7	1-10
798R	Master Thesis – *cont registration*	Staff	2	R
799	Doctoral Dissertation	Staff	5	1-15
799R	Doctoral Dissertation – *cont registration*	Staff	3	R

FALL SEMESTER SCHEDULE
2009

COURSE HOURS	CLASS TITLE	INSTRUCTOR	ENROLL	STUDENT CREDIT
114	Microcomputer Packages	Sourya Sen	55	3
114	Microcomputer Packages	Sydney Addy	48	3
114	Microcomputer Packages	Ganash Nayakam	55	3
114	Microcomputer Packages	Prosenjit Konar	53	3
114	Microcomputer Packages	Ushashi Chakraborty	51	3
114	Microcomputer Packages	Ushashi Chakraborty	55	3
114	Microcomputer Packages	Dana Johnson	79	3
116	Business Use of Computers	Sana Rehman	55	4
116	Business Use of Computers	Omar ElAriss	55	4
116	Business Use of Computers	Asha Yadav	56	4
116	Business Use of Computers	Judi Novotny	55	4
116	Business Use of Computers	Bouchaib Falah	55	4
116	Business Use of Computers	Bouchaib Falah	54	4
116	Business Use of Computers	Richard Rummelt	92	4
122	Beginning BASIC/Visual BASIC	D. Bindra	40	3
122	Beginning BASIC/Visual BASIC	N. Takahashi	39	3
125	COBOL Programming	S. Kaliki	25	3
155	Self-Paced JAVA/Immigration	S. Kaliki	1	1
159	Computer Sc. Problem Solving	W. Voorhees	40	3
159	Computer Sc. Problem Solving	Helsene	39	3
160	Computer Science I	R. Rummelt	40	4
160	Computer Science I	O. Myronvych	41	4
160	Computer Science I	R. Rummelt	41	4
161	Computer Science II	S. Abufardeh	36	4
161	Computer Science II	S. Abufardeh	20	4
222	Discrete Mathematics	V. Ubhaya	42	3
227	Computing Fund. I	O. Myronvych	50	3
277	Introduction to UNIX	J. Latimer	20	3
315	System Anal & Design	G. Walia	52	3
335	Theoretical CS I	J. Martin	52	3

366	Files/Database System	A. Denton	61	3
372	Comparative Languages	W. Jin	46	3
372	Comparative Languages	W. Jin	33	3
373	Assembly Programming	V. Ubhaya	42	3
413	Principles of Software Eng.	H. Do	18	3
418	Simulation Models	K. Nygard	7	3
458	Microcomputer Graphics	O. Borchert	18	3
469	Network Security	S. Abufardeh	8	3
474	Operating Systems Conc.	J. Kong	41	3
474	Operating Systems Conc.	S. Salem	36	3
477	Object Oriented Systems	W. Zhang	14	3
488	Human-Computer Interaction	J. Kong	21	3
618	Simulation Models	K. Nygard	8	3
658	Microcomputer Graphics	Cancelled	0	3
669	Network Security	S. Abufardeh	9	3
677	Object Oriented Systems	W. Zhang	8	3
688	Human-Computer Interaction	J. Kong	19	3
708	Foundations of Programming	J. Martin	41	3
713	Software Engineering I	K. Magel	46	3
713	Software Engineering I- *cont ed*	K. Magel	9	3
715	Software Req/Definition/Analys	H. Do	15	3
715	Software Req/Definition/Analys	K. Magel **(Cont. Edu)**	1	3
716	Software Design	K. Magel **(Cont. Edu)**	1	3
718	Software Testing and Debugging	T. King	9	3
718	Software Testing and Debugging	Cancelled	0	3
746	Development of Distributed Systems	J. Li	10	3
747	Software Complexity Metrics	Cancelled	0	3
765	Intro to Database Systems	B. Perrizo	44	3
778	Computer Networks	Cancelled	0	3
783	ST/Adv Parallel Virt High-Performance	W. Perrizo	9	3
790	Sem/Data Mining in Science	A. Denton	12	1
790	Sem/Educational Media	B. Slator	13	1
790	Sem/Software Engineering	K. Magel	6	1
790	Sem/Combinatorial Optimization	K. Nygard	13	1
790	Sem/ Semantic Lab Technology	J. Li	3	1
797	Masters Paper	Staff	27	1-10
797R	Masters Paper	Staff	54	R
798	Master Thesis	Staff	10	1-10
798R	Master Thesis	Staff	11	R
799	Doctoral Dissertation	Staff	16	1-15
799R	Doctoral Dissertation	Staff	8	R

SPRING SEMESTER SCHEDULE
2010

COURSE HOURS	CLASS TITLE	INSTRUCTOR	ENROLL	STUDENT CREDIT
114	Microcomputer Packages	Ganash Nayakam	55	3
114	Microcomputer Packages	Adam Jacobs	56	3
114	Microcomputer Packages	Sourya Sen	55	3
114	Microcomputer Packages	Prosenjt Konar	55	3
114	Microcomputer Packages	Ritiki Sahni	55	3
114	Microcomputer Packages	Ririki Sahni	55	3
114	Microcomputer Packages	Dana Johnson	85	3
116	Business Use of Computers	Vaib Anu	55	4
116	Business Use of Computers	Saumya Singh	55	4
116	Business Use of Computers	Asha Yadav	55	4
116	Business Use of Computers	Judi Novotny	55	4
116	Business Use of Computers	Bouchaib Falah	55	4
116	Business Use of Computers	Bouchaib Falah	55	4
116	Business Use of Computers	Richard Rummelt	93	4
122	Beginning BASIC/Visual BASIC	Dan Aceituna	41	3
122	Beginning BASIC/Visual BASIC	Steve BouGoshn	54	3
159	Computer Sc. Problem Solving	William Voorhees	40	3
159	Computer Sc. Problem Solving	Omar ElAriss	34	3
159	Computer Sc. Problem Solving - DCE	O. Myronvych	23	3
160	Computer Science I	R. Rummelt	43	4
160	Computer Science I	O. Myronvych	34	4
160	Computer Science I	R. Rummelt	28	4
161	Computer Science II	S. Abufardeh	41	4
161	Computer Science II	S. Abufardeh	27	4
222	Discrete Mathematics	V. Ubhaya	37	3
228	Computing Fundamentals II	O. Myronvych	40	3
316	System Testing & Maintenance	O. Myronvych	43	3
336	Theoretical CS II	J. Martin	38	3
345	Topics on Personal Computers	B. Slator	36	3
371	Web Scripting Language	O. Myronvych	12	3
372	Comparative Prog Languages	A. Denton	40	3
372	Comparative Prog Languages	A. Denton	18	3
373	Assembly Programming	Srinivasan	24	3
373	Assembly Programming	V. Ubhaya	34	3
374	Computer Organization	C. Yan	41	3
426	Intro / Artifical Intelligence	W. Jin	26	3
445	Software Projects Capstone	D. Knudson	39	3
459	Found/Computer Networks	M. Zhang	31	3
467	Algorithm Analysis	J. Martin	52	3

475	Operating Systems Design	J. Kong	28	3
489	Social Implications of Comp	K. Nygard	78	3
626	Intro / Artifical Intelligence	W. Jin	3	3
659	Found/Computer Networks	W. Zhang	10	3
689	Social Implications of Comp	K. Nygard	17	3
713	Software Engineering I - DCE	K. Magel	5	3
714	Software Project Planning & Estimat -DCE	H. Do	7	3
715	Software Requirements Defn & Anal. DCE	K. Magel	4	3
716	Software Design	K. Magel	28	3
716	Software Design – *Dist. Ed*	K. Magel	3	3
718	Software Testing/Debugging	T. King	28	3
718	Software Test/Debugging *Dist Ed*	Cancelled	0	3
724	Survey/Artificial Intelligence	J. Li	33	3
732	Intro to Bioinformatics	A. Denton	19	3
758	Bioinformatics Datat Mining	S. Salem	10	3
765	Intro to Database Systems	W. Perrizo	15	3
778	Computer Networks	J. Li	8	3
783	Adv. Tech. Logistics	K. Nygard	13	3
783	Empirical Software Engineering	G. Walia	9	3
785	Wireless Networks/Mobile Compt.	W. Zhang	15	3
785	Adv Topics in Software Architecture	W. Perrizo	4	3
790	Sem/Educational Media	B. Slator	11	1
790	Sem/Software Engineering	K. Magel	15	1
790	Sem/Optimization in Sensor Networks	K. Nygard	6	1
790	Sem / Data Mining in Science	Denton / Salaem	20	1
797	Masters Paper	Staff	22	1-10
797R	Masters Paper	Staff	61	R
798	Master Thesis	Staff	12	1-10
798R	Master Thesis	Staff	14	R
799	Doctoral Dissertation	Staff	20	1-15
799R	Doctoral Dissertation	Staff	8	R

SUMMER I SCHEDULE
2010

COURSE HOURS	CLASS TITLE	INSTRUCTOR	ENROLL	STUDENT CREDIT
114	Microcomputer Packages	D. Johnson **(Cont Edu)**	72	3
116	Business Use of Computers	P. Kotala(Cont Edu)	42	4
122	Programming in Basic VB.NET	O. Myronvych	27	3
473	Foundations of Digital Enter	K. Nygard	8	3
713	Software Engineering	K. Magel	0	3

716	Software Design	K. Magel	5	3
773	Foundations of Digital Enter	K. Nygard	26	3
793	Software Projects 1	K. Magel	1	3
793	Sofware Projects II	K. Magel	2	3
793	Optimization Modeling	K. Nygard	1	3
793	Creativity in Sofware Engineering	G. Walia	2	3
793	Business Adoption of SOA	G. Walia	1	3
793	Program in PERL for Bioinformatics	A.Denton	0	3

STUDENT RATING OF INSTRUCTION RESULTS 2009-2010

FALL, 2009 and SPRING 2010

Questions	VG	G	IB	P	VP	OMIT	DEPARTMENT LEVEL Mean	S.D.	#R
100 TO 200 LEVEL									
1. Your satisfaction with the instruction in this course.	28.3	43.9	18.7	7.1	2.0	0.0	4.008	0.951	2014
2. The instructor as a teacher.	30.4	41.1	20.0	6.8	1.6	0.1	4.050	0.951	2013
3. The ability of the instructor to communicate effectively	26.2	37.5	24.7	8.6	2.9	0.2	3.904	1.009	2010
4. The quality of this course	26.0	41.5	24.2	6.5	1.6	0.2	3.936	0.939	2011
5. The fairness of procedures for grading this course.	44.4	41.0	10.7	2.9	0.8	0.3	4.303	0.826	2009
6. Your understanding of the course content.	28.3	45.9	19.1	4.8	1.9	0.0	4.005	0.902	2014
300 TO 400 LEVEL									
1. Your satisfaction with the instruction in this course.	31.1	44.7	18.0	4.2	1.6	0.4	4.008	0.951	2014
2. The instructor as a teacher.	36.2	44.0	14.5	3.6	1.3	0.4	4.050	0.951	2013
3. The ability of the instructor to communicate effectively	28.7	40.0	22.9	7.1	0.7	0.5	3.904	1.009	2010
4. The quality of this course	26.7	43.5	21.5	7.1	0.9	0.4	3.936	0.939	2011
5. The fairness of procedures for grading this course.	46.0	39.5	10.7	2.5	0.9	0.4	4.303	0.826	2009
6. Your understanding of the course content.	28.4	45.8	19.3	5.3	0.9	0.4	4.005	0.902	2014
600 TO 700 LEVEL									
1. Your satisfaction with the instruction in this course.	62.9	26.1	5.2	4.8	1.0	0.0	4008	0.951	2014
2. The instructor as a teacher.	64.1	20.0	8.4	3.2	2.3	0.0	4.050	0.951	2013
3. The ability of the instructor to communicate effectively	64.8	22.6	8.1	2.3	1.9	0.3	3.904	1.009	2010
4. The quality of this course	57.1	28.1	11.0	2.6	1.0	0.3	3.936	0.939	2011
5. The fairness of procedures for grading this course.	66.1	24.8	4.5	2.3	1.6	0.6	4.303	0.826	2009
6. Your understanding of the course content.	50.6	36.8	9.0	2.3	1.3	0.0	4.005	0.902	2014

Department Employment of graduates:

Fall 2009
Graduate Teaching Assistants - 19
Graduate Assistants (Graders) - 34

Spring 2010
Graduate Teaching Assistants - 20
Graduate Assistants (Graders) – 26

GRADUATE STUDENTS 2009-2010

Masters Students:

Aakula, Srikanth
Agarwal, Abhishek
Ahuja, Sarthak
Amuge, Betty
Annadi, Ramakanth
Annapureddy, Anupama
Bai, Shi
Bapanpally, Pavan
Basu, Samdip
Bavanari, Haribabu
Bouret, Megan
Byrisetty, Naga
Chakraborty, Ushashi
Chatterjee, Arijit
Chauhan, Anuj
Chen, Min
Chhina, Ramneet
Chintamaneni, Venkata Santosh
Chinthakayala, Krishna
Chitraranjan, Charith
Chowdhury, Md. Minhaz
Dash, Debajyoti
Dass, Pranav
Dayala, Divya
DeSoysa, Shanaka
Dischinger, Benjamin
Dumpala, Chaitanya
Emmadi, Praveen
Fazal, Kareemullah
Fazal, Nazeer
Frovarp, Richard
Ganesan, Arjun
Garg, Bandana
Garg, Tarun
Ginjala, Ashok
Ginjupalli, Siva
Guduru, Srinivas
Gupta, Divya
Hegde, Reshma
Helsene, Adam
Hensley, Joel
Ireddy Naga, Krishnakanth
Jaidev, Akanksha
Jonnalagadda, Vindhya
Joseph, Priya
K.C. Puja
Kapoor, Chetan
Kapoor, Raghav
Kar, Angshu
Khanchandani, Kavita
Koganti, Nikhil
Kondakindi, Swathi
Kondamarri, Samuel
Kondoor, Dinesh
Kroshus, John
Kunala, Santosh
Landin, Michael
Lanke, Ramesh
Liu, Chao
Liu, Yang
Lu, Tingda
Maddi, Sunil
Mandala, Narendar
Manori, Anshuman

Mattaparthy, Harika
Mudgal, Akshay
Mukhami, Sudesh
Mukka, Hari Krishna
Murugesan, Karthiksivaram
Nayakam, Ghanashyam
Osmani, MD
Pachalyapparn, Sathya
Pachva,. Srikar
Padmanabhan, Ganesh
Pandey, Shivendushital
Param, Sowjanya
Paturu, Suresh
Podagatlapalli, Chaitanya
Poreddy, Sandeep
Pullagurala, Praveen
Raavi Sandeep
Radermacher, Alex
Raidu, Venkata
Rehman, Sana
Reindl, Phillip
Sahni, Ritika
Sambaraju, Sharath
Saxena, Kaustubh
Sen, Sourya
Sharma, Ranjana
Sharma, Sonu
Sharam, Susbi
Sikharam, Sandeep
Singh, Saumya
Singh, Yashaswi
Sivanandam, Dinesh
Somavarapu, Murali
Suravarapu, Vijay
Teotia, Ashish
Thapa, Birendra
Tirupathi, Phani
Tiwari, Shweta
Vanteru, Siva
Vellaswamy Chelaiah, Ganesh Kumar
Voorhees, William
Wang, Yan
Wu, Qipeng
Yadav, Asha
Yarram, Vishnu

SOFTWARE ENGINEERING MASTERS

Bawa, Nadeept -MSE
Addy, Sydney
Anu, Vaibhav
Bhogadi, Manu
Bhowmick, Dibakar
Bindra, Dhruv
Buch, Charles
Carlson, Ryan
Chauhan, Anuj
Christeson, Eric
Eda, Ravi
Elhassani, Abdelhadi
Elmaraghy, Mohamed
Fonseka, Nilukshi
Gronneberg, Bethlehem
Gunderson, Karl
Jacobs, Adam
Jahan, Farzana
Kallam, Lakshmi
Katiyar, Arti
Kohli, Jyotjeev
Limke, Jed
Minot, Scott
Mohpal, Aditi
Mohpal, Aditya
Murugaiyan, Elangovan
Njos, Robby
Novotny, Judi
Pillarikuppam, Naresh
Potla, Yaswanth
Pradhan, Basudha
Roseen, Jeremy
Sathiaseelan, Anu
Sharma, Aman
Shrestha, Bickrant
Singh, Kunal
Srichinta, Pallavi
Srivastava, Arun
Takahashi, Maomi
Tanha, Mousumi

Thalloj, Pramodh
Upadhyay, Rajat
Wijeyaratne, Pubudu
Xia, Xiaojun

PhD STUDENTS:

Al-Azzam, Omar
Al-Nimer. Loai
Bani Taan, Shadi
Bengfort, Benjamin
Besemann, Christopher
Borchert, Otto
Bou Ghosn, Steve
Chakravarthi, Satheesh
ElAriss, Omar
Gagneja, Kanwalinder
Ganti, Annaji
Jockheck, William
Kambhampaty, Krishnan
Kandah, Farah
Konar, Prosenjit
Kotala, Pratap
Paul Loree
Marback, Aaron
Pikalek, Jonathan
Ranganathan, Prakash
Roudaki, Amin
Roy, Arjun
Wu, Jiafei
Yang, Ying
Zhang, Ming
Zhao, Jingjun

SOFTWARE ENGINEERING PhD

Aceituna, Daniel
Akour, Mohammed
Alazzam, Iyad
Aijarah, Ibrahim
Asgar, Talukdar
Barakat, Rahaf
Falah, Bouchaib
Kaliki, Srikanth
Lacher, Lisa
Lua, Chin
Lundell, Martin
Rummelt, Richard

Computer Science Department Enrollment Data

	Enrollment Fall 2009						Total Degrees Fall 09/Spring 2010		
AY	1st FR	2nd SO	3rd JR	4th SR	Total UG	Total Grad	BS/BA	MS Comp Sc. Software	PhD Comp Sc. Software
2009 - 2010	71	55	48	79	253	197	38/2	20/6	1/1
2008-2009	66	54	44	84	248	187	40/3	17/4	1/1
2007-2008	65	43	50	84	242	174	43/1	33/3	4/2
2006-	47	46	36	68	197	148	32/2	19/0	3/2

2007										
2005-2006	50	30	46	64		190	128	37	11/1	5/0
2004-2005	49	37	47	84		217	178	45	22/5	4/0

Graduate Degrees Awarded, 2009-2010

Summer Semester, 2009	**Degree**
Garimedi, Rajana	MS, CS
Chakravarthi, Satheesh	MS, CS
Ganti, Annaj	MS, CS
Emmadi, Praveen	MS, CS
Guduru, Vasumathi	MS, CS
Gooduru, Ramakrishna	MS, CS
Kurapati, Venkata	MS, CS
Ramamurthy, Durga	MS, CS
Tirupathi, Ambika	MS, CS
Fall Semester, 2009	**Degree**
Arora, Barjesh	MS, CS
Cimic, Senad	MS, SE
Dass, Pranav	MS, CS
Narayanan, Vasant	MS, CS
Rizvi, Huma	MS, SE
Woznica, Szymon	MS, CS
Yamparala, Sriharsha	MS, CS
Myronovych, Oksana	PHD, SE
Chinthakayala, Krishna	CERT - SE
Spring Semester, 2010	**Degree**
Chatterjee, Arijit	MS, CS
Eda, Ravi	MS, SE
Mukka, Hari Krishna	MS, CS
Osmani, Md Golam	MS, CS
Reindl, Phillip	MS, CS
Takahashi, Naomi	MS, SE
Tanha, Mousumi	MS, SE
Wu, Qipeng	MS, CS

Jockheck, William	PHD, CS
Kotala, Pratap	CERT, SE

H. DIVERSITY

The Department has always had a significant international representation, particularly people of color from the Far East and the Indian sub-continent, principally in the graduate program. Recently this has extended to the undergraduate program as NDSU has started to offer twinning programs (start in China, Egypt or India and spend the last year or two years at NDSU) at the undergraduate and graduate levels. We hope to expand these programs in Egypt (with which we have a faculty-student exchange) and China within the next few years.

The Department has worked hard to improve the representation of women and other disadvantaged groups in our faculty and student body. The lack of women students is a national problem which has become a priority for the national organizations in Computer Science. Our approach has been to increase female representation on our faculty to serve as role models and mentors for female students. We have been very successful in this effort. Five of our last ten faculty hires have been women. Presently we have five female Assistant Professors. The first of this cadre earned tenure and promotion to Associate Professor during 2008-09.

Starting in 2008-09, the Department encouraged e these female professors to try to increase the representation of women within our student population. This effort will have two components:
- Asking each female faculty member to assist with developing relationships with area high school;
- Forming a committee of female faculty to review our practices and curricula for anything which might make the programs less attractive to women than they should be.

We realize this is a long term effort. While it is too early to measure success, we are encouraged by our modest initial progress. We hope to expand our outreach efforts during the coming years.

Other disadvantaged groups whose representation in our programs should increase include Hispanics, Native Americans, and African Americans (domestic people of color). As mentioned above, the representation of international students of color, particularly from Asia, and especially in our graduate programs and on our faculty, is well above the national percentage of these groups in the United States population.

The Department has tried to reach out to Native Americans in North Dakota through a variety of organizations. We have had little success. We will continue to try. With the help of the National Science Foundation, the Department has formulated a more comprehensive strategy for attracting disadvantaged students.

The NDSU CoCISE (Collaborative for Scholarships in Computer, Information Sciences and Engineering) is for students majoring in Computer Science, Computer Engineering, Management Information Systems or Pre-Management Information Systems. CoCISE is a scholarship program designed to provide scholarship support and academic mentoring to talented and financially disadvantaged computer engineering, computer science, and management information systems students at NDSU. The CoCISE program is funded by a four-

year grant from the National Science Foundation. The state objectives of the program include: "Increasing the numbers of women and minority group students, particularly Native Americans, in the computer engineering, computer science, management information systems, and pre-management information systems programs.

A complete list of CoCise awards can be located above, under "Speical Initiatives". This four year, $500,000 program has just entered its fourth year. We expect to apply for a new grant through this program.