

Curriculum Vitae

Hyunsook Do

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Education

Ph.D., University of Nebraska-Lincoln, May 2007.

Ph.D. student in Computer Science, Oregon State University, 2000 - 2004.

M.S. in Computer Science, Tokyo Institute of Technology, Tokyo, Japan, June 1994.

B.S. in Computer Science, Sungshin Women's University, Seoul, Korea, February 1989.

Professional Experience

Assistant Professor, Department of Computer Science, North Dakota State University, 2007 - present.

Senior Research Associate, Department of Computer Science, University of Nebraska-Lincoln, May 2007 - July 2007.

Research Assistant, Department of Computer Science, University of Nebraska-Lincoln, 2004 - 2007.

Research Assistant, Department of Computer Science, Oregon State University, 2000 - 2004.

Senior Research Staff, Electronics and Telecommunication Research Institute (ETRI), Korea, 1997 - 1998.

Research Staff, Electronics and Telecommunication Research Institute (ETRI), Korea, 1994 - 1997.

Research Staff, Electronics and Telecommunication Research Institute (ETRI), Korea, 1989 - 1991.

Refereed Journal Papers

Hyunsook Do and Gregg Rothermel, *On the Use of Mutation Faults in Empirical Assessments of Test Case Prioritization Techniques*, IEEE Transactions on Software Engineering, Volume 32, No. 9, September, 2006, pages 733-752.

Hyunsook Do, Gregg Rothermel, and Alex Kinneer, *Prioritizing JUnit Test Cases: An Empirical Assessment and Cost-Benefits Analysis*, Empirical Software Engineering: An International Journal, Volume 11, No. 1, 2006, pages 33-70.

Alex Orso, Hyunsook Do, Gregg Rothermel, Mary J. Harrold, and David S. Rosenblum, *Using Component Metadata to Regression Test Component-Based Software*, Journal of Software Testing, Verification, and Reliability, Volume 16, No. 4, December, 2006.

Hyunsook Do, Sebastian Elbaum, and Gregg Rothermel, *Supporting Controlled Experimentation with Testing Techniques: An Infrastructure and its Potential Impact*, Empirical Software Engineering: An International Journal, Volume 10, No. 4, 2005, pages 405-435.

Refereed Conference Papers

Hyunsook Do and Gregg Rothermel, *An Empirical Study of Regression Testing Techniques Incorporating Context and Lifetime Factors and Improved Cost-Benefit Models*, ACM SIGSOFT Symposium on Foundations of Software Engineering (FSE), November, 2006.

Hyunsook Do and Gregg Rothermel, *A Controlled Experiment Assessing Test Case Prioritization Techniques via Mutation Faults*, IEEE International Conference on Software Maintenance (ICSM), September, 2005, pages 411-420.

Hyunsook Do, Gregg Rothermel, and Alex Kinneer, *Empirical Studies of Test Case Prioritization in a JUnit Testing Environment*, IEEE International Symposium on Software Reliability Engineering (ISSRE), November 2004, pages 113-124.

Hyunsook Do, Sebastian Elbaum, and Gregg Rothermel, *Infrastructure Support for Controlled Experimentation with Software Testing and Regression Testing Techniques*, ACM-IEEE International Symposium on Empirical Software Engineering (ISESE), August, 2004, pages 60-70.

Alex Orso, Mary J. Harrold, David Rosenblum, Gregg Rothermel, Mary L. Soffa, and Hyunsook Do, *Using Component Metadata to Support the Regression Testing of Component-Based Software*, IEEE International Conference on Software Maintenance (ICSM), November, 2001, pages 716-725.

Hyunsook Do, Sungyong Bae, and Sangki Kim, *INAP Protocol Test Suite Verification Method using the IUT Simulator for AIN System Conformance Testing*, Lecture Notes in Computer Science, Springer, April, 1998.

Hyunsook Do, Sungyong Bae, and Sangki Kim, *AIN Protocol Conformance Test Suite Generation using Formal Methods*, Advanced Intelligent Networks (AIN), University of Passau, Italy, July, 1997.

Hyunsook Do, *A Design and Analysis of Telecommunication Protocol using Object-Oriented Methodology*, The sixth workshop on Synthesis and System Integration of Mixed Technologies (SASIMI), Japan, November, 1996.

Other Publications and Technical Reports

Hyunsook Do and Gregg Rothermel, *Software-artifact Infrastructure Repository (SIR) for Supporting Empirical Studies in Software Engineering*, Poster, International Symposium on Empirical Software Engineering (ISESE), September, 2006.

Hyunsook Do, *The State of the Art in Controlled Experimentation on Testing Techniques and an Evaluation Criteria for Controlled Experiments*, Technical Report TR-UNL-CSE-2006-015, Department of Computer Science and Engineering, University of Nebraska - Lincoln, January, 2006.

Hyunsook Do, Sebastian Elbaum, Gregg Rothermel, *Building an Infrastructure to Support Experimentation with Software Testing Techniques*, Online Proceedings of the ISSTA Workshop on Empirical Research in Software Testing (WERST), July 2004.

Hyunsook Do, Gregg Rothermel, and Sebastian Elbaum, *Infrastructure Support for Controlled Experimentation with Software Testing and Regression Testing Techniques*, Technical Report 04-60-01, Department of Computer Science, Oregon State University, January, 2004.

Systems and Research Tools

Software-artifact Infrastructure Repository (SIR):

As a part of my research, I am involved in designing and constructing a software-artifact infrastructure repository, which supports controlled experimentation with software testing, regression testing, and program analysis techniques. This repository provides Java and C programs for use in experimentation tools that support researchers in their use, and materials facilitating that use. To date this infrastructure has been accessed by over 50 researchers from 18 different countries and is publicly available at <http://esquared.unl.edu/sir>.

Proposal Preparation Experience

As a PhD student I cannot serve as a PI on NSF grants, but I participated in preparing proposals:

Improving Regression Testing Research and Practice through Comprehensive Cost-Benefit Models and Rigorous Empirical Assessment, National Science Foundation (Foundations of Computing Processes and Artifacts: CPA), \$453,960, October, 2006, submitted.

Scalable Integration Testing of Object-Oriented Software: An Empirical Research Approach, National Science Foundation, \$158,854, 8/2003-7/2007, funded.

Participation in Korean Research Projects

AIN (Advanced Intelligent Network) Protocol Conformance Test. Korea Telecom funded project, 1996-1998.

Design and development of Abstract Test Suite using TTCN (Tree & Tabular Combined Notation) and SDL (Specification & Description Language) language for Intelligent Network Protocol Conformance Testing to test the Intelligent Network Protocol of Korea Telecom.

Research on AIN structure. Korea Telecom funded project, 1995-1996.

Development of Intelligent Network Protocol Specification for Korea Standard.

AIN SCE development. Korea Telecom funded project, 1994.

As a part of this project, my contribution was to develop a Graphical User Interface using C on UNIX using OSF/Motif to monitor the execution of Intelligent Network Service processes, mainly for detecting errors.

IBM 3090 Graphics Tool management and user interface development using Fortran, Korean Government funded project, 1989-1991.

Presentations and Talks

Conference presentation at FSE 2006, Portland, OR

“An Empirical Study of Regression Testing Techniques Incorporating Context and Lifetime Factors and Improved Cost-Benefit Models”

Conference presentation at ICSM 2005, Budapest, Hungary

“A Controlled Experiment Assessing Test Case Prioritization Techniques via Mutation Faults”

Conference presentation at ISSRE 2004, Saint-Malo, France

“Empirical Studies of Test Case Prioritization in a JUnit Testing Environment”

Workshop presentation at AIN 1997, University of Passau, Italy

“AIN Protocol Conformance Test Suite Generation using Formal Methods”

Workshop presentation at SASIMI 1996, Fukuoka, Japan

“A Design and Analysis of Telecommunication Protocol using Object-Oriented Methodology”

Teaching

Fall 2006: Software Engineering (CSE361), University of Nebraska - Lincoln

Co-taught with Dr. Myra Cohen

Student Supervision

As part of my Ph.D duties I co-supervised the following students.

Soumya Chattopadhyay (M.S., 2003)

Vasanth Williams (M.S., 2003)

Weiyun Wu (M.S., 2003)

Alex Kinneer (B.S., 2003)

Reviewer

IEEE Transactions on Software Engineering

Software Quality Journal

Information and Software Technology

International Conference on Software Engineering (ICSE) 2006

ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA) 2006

Automated Software Engineering (ASE) 2005

ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA) 2002

Service

Student Volunteer, International Conference on Software Engineering (ICSE) 2005

Hiring Committee, Department of Computer Science and Engineering, University of Nebraska-Lincoln, 2004-2005.

Student Volunteer, International Symposium on Software Testing and Analysis (ISSTA) 2004

President - Computer Science Undergraduate Students Association, Sungshin Women's University (1988).

Awards

SigSoft CAPS funding for FSE 2006

Jensen Chair Graduate Research Assistant Fellowship, Department of Computer Science and Engineering, University of Nebraska-Lincoln (2004-present).

IBM-Asia Fellowship, Japan, 1992-1994.

Four year tuition award scholarship, Sungshin Women's University, Korea, 1985-1989