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Education

PhD in Computer Science, University of Nebraska – Lincoln, 2009

Advisor: Matthew B. Dwyer; Dissertation Title: Differential Symbolic Execution

M.S. in Software Engineering, National Technological University, 2003

Leadership and Management for Scientists and Engineers, UCSD, 1990

B.S. in Computer Science. Iowa State University. 1984

Work Experience

2015-present Associate Professor of Practice and Director of Software Engineering, Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE

2009-present Research Computer Scientist, Formal Methods Group, NASA Langley Research Center Hampton, VA

2008-2008 Google Summer of Code (GSoC) (May-August), NASA Ames Java PathFinder (JPF) Project

2007-2007 Intern, Mission Critical Technologies, Inc. (May-August) at Intelligent Systems Division, Robust Software Engineering Group, NASA Ames, Mountain View, CA

2004-2009 Graduate Research Assistant, Computer Science and Engineering, University of Nebraska-Lincoln; Advisor: Dr. Matthew B. Dwyer

2003-2005 Lecturer, Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE

2002-2004 Director of the Great Plains Software Technology Initiative, Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE

2002-2003 Project Manager/Mentor, J.D. Edwards Honors Program, Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, NE

1998-2002 Sr. Consultant, Renaissance Worldwide, Inc. Omaha, NE at the State of Nebraska Department of Health and Human Services

1994-1997 Software Team Leader, Metromail, Lincoln, NE

1986-1993 Sr. Software Engineer, TeleSoft, Inc., San Diego, CA

Awards and Recognition

2008	Outstanding Graduate Research Assistant, Computer Science and Engineering, University of Nebraska-Lincoln
2007	Google 2007 Anita Borg Memorial Scholarship Finalist
2006	Distinguished Paper Award, International Symposium on Foundations of Software Engineering

Publications

Refereed Journal Publications

1. G. Yang, S. Person, N. Rungta, S. Khurshid, "Directed Incremental Symbolic Execution" in *ACM Transactions on Software Engineering and Methodology (TOSEM)*, Vol. 24, No. 1, Article 3, Sept. 2014.
2. S. Person and N. Rungta, "Maintaining the Health of Software Monitors" *Innovations in Systems and Software Engineering Journal, Special Issue on Software Health Management*, Vol. 9, Issue 4, 2013.

Rigorously Refereed Conference Publications

- B. Hillery, E. Mercer, N. Rungta, S. Person, "Exact Heap Summaries for Symbolic Execution" *International Conference on Verification, Model Checking and Abstract Interpretation*, January 2016.
- M. Whalen, S. Person, N. Rungta, M. Staats, D. Grijincu, "A Flexible and Non-intrusive Approach for Computing Complex Structural Coverage Metrics" *International Conference on Software Engineering*, May 2015.
- L. Zhang, G. Yang, N. Rungta, S. Person, S. Khurshid, "Feedback-Driven Dynamic Invariant Discovery" in *Proceedings of the International Symposium on Software Testing and Analysis*, July 2014.
- Y. Wang, S. Person, S. Elbaum, M. Dwyer, "A Framework to Advise Tests Using Tests" in *Proceedings of the 36th International Conference on Software Engineering (NIER Track)*, May 2014.
- A. Sarma, S. Person, N. Rungta, J. Branchaud, M. Dwyer, "Development Context Driven Change Awareness and Analysis Framework" in *Proceedings of the 36th International Conference on Software Engineering (NIER Track)*, May 2014.
- G. Yang, S. Khurshid, S. Person, N. Rungta, "Property Differencing for Incremental Checking" in *Proceedings of the 36th International Conference on Software Engineering*, May 2014.
- B. Ray, M. Kim, S. Person, and N. Rungta, "Detecting and Characterizing Semantic Inconsistencies in Ported Code" *Proceedings of 28th IEEE/ACM International Conference on Automated Software Engineering*, Nov. 2013.
- J. Backes, S. Person, N. Rungta, and O. Tkachuk, "Regression Verification using Impact Summaries" *International SPIN Symposium on Model Checking of Software*, July 2013.
- N. Rungta, S. Person, and J. Branchaud, "A Change-impact Analysis to Characterize Evolving Program Behaviors" in *Proceedings of the 28th IEEE Conference on Software Maintenance*, Sept. 2012.
- S. Person, G. Yang, N. Rungta, and S. Khurshid, "Directed Incremental Symbolic Execution" in *Proceedings of the 32nd ACM SIGPLAN conference on Programming Language Design and Implementation*, June 2011.
- S. Person and M. Dwyer, "Generalized Abstract Symbolic Summaries" in *Proceedings of the First NASA Formal Methods Symposium*, Apr. 2009.
- S. Person, M. Dwyer, and S. Elbaum, "Differential Symbolic Execution," in *Proceedings of the 16th ACM SIGSOFT Symposium on Foundations of Software Engineering*, Nov. 2008.

- C.S.Păsăreanu, P.C.Mehlitz, D.H.Bushnell, K.Gundy-Burlet, M. Lowry, S. Person, and M. Pape, "Combining Unit-level Symbolic Execution and System-level Concrete Execution for Testing NASA Software," in *Proceedings of the International Symposium on Software Testing and Analysis*, July 2008.
- M. Dwyer, S. Elbaum, S. Person, and R. Purandare, "Parallel Randomized State-space Search," in *Proceedings of the 29th International Conference on Software Engineering*, May 2007.
- S. Elbaum, S. Person, J. Dokulil, and M. Jorde, "Bug Hunt: Making Early Software Testing Lessons Engaging and Affordable," in *Proceedings of the 29th International Conference on Software Engineering*, May 2007.
- M. Dwyer, S. Person, and S. Elbaum, "Controlling Factors in Evaluating Path-sensitive Error Detection Techniques", in *Proceedings of the 14th ACM SIGSOFT Symposium on Foundations of Software Engineering*, Nov. 2006.
- L.-K. Soh, A. Samal, S. Person, G. Nugent, and J. Lang, "Analyzing Relationships between Closed Labs and Course Activities in CS1", in *Proceedings of the 10th annual SIGCSE Conference on Innovation and Technology in Computer Science Education*, June 2005.
- L.-K. Soh, A. Samal, S. Person, G. Nugent, J. Lang, "Designing, Implementing, and Analyzing a Placement Test for Introductory CS Courses", in *Proceedings of the 36th SIGCSE Technical Symposium on Computer Science Education*, Feb. 2005.
- L.-K. Soh, A. Samal, S. Person, G. Nugent, J. Lang, "Closed Laboratories with Embedded Instructional Research Design for CS1", in *Proceedings of the 36th SIGCSE Technical Symposium on Computer Science Education*, Feb. 2005.

Workshop Publications and Other Conference Papers

- R. Kersten, S. Person, N. Rungta, O. Tkachuk, "Improving Coverage of Test Cases Generated by Symbolic PathFinder for Programs with Loops" *Java PathFinder Workshop*, Nov. 2014.
- N. Rungta, O. Tkachuk, S. Person, J. Biatek, M. Whalen, J. Castle, K. Gundy-Burlet, "Helping System Engineers Bridge the Peaks" in *Proceedings of the Fourth International Workshop on the Twin Peaks of Requirements and Architecture*, May 2014.
- B. Hillery, E. Mercer, N. Rungta, and S. Person, "Towards a Lazier Symbolic PathFinder" *Java PathFinder Workshop*, Nov. 2013.
- L. Zhang, G. Yang, N. Rungta, S. Person, and S. Khurshid, "Invariant Discovery Guided by Symbolic Execution" *Java PathFinder Workshop*, Nov. 2013.
- E. Mercer, S. Person, and N. Rungta, "Computing and Visualizing the Impact of Change with Java PathFinder Extensions" *JPF Workshop*, Nov. 2012.
- M. Dwyer, R. Purandare, and S. Person, "Runtime Verification in Context: Can Optimizing Error Detection Improve Fault Diagnosis?" in *Proceedings of the First International Conference on Runtime Verification (RV)*, Nov. 2010 (Invited paper).

Technical Reports

- R. Siminiceanu, P. Miner, and S. Person, "A Methodology for Evaluating Artifacts Produced by a Formal Verification Process" *Technical Publication*, NASA/TM-2011-217193, Nov. 2011.

Professional Service and Synergistic Activities

Program Committee Membership

- International Conference on Software Testing, Verification and Validation (ICST) 2016 (PC)
- International Conference on Software Engineering (ICSE) 2015-2017 (PC)
- International Conference on Automated Software Engineering (ASE) 2015 (Expert Review Panel)
- International Symposium on Software Testing and Analysis (ISSTA) 2014-2015 (PC)
- International SPIN Symposium on Model Checking of Software 2014-2015 (PC)
- NASA Formal Methods Symposium (NFM) 2012-2015 (PC)
- Formal Integrated Development Environment Workshop (F-IDE) 2014-2015 (PC)
- Workshop on Program Analysis for Software Tools and Engineering (PASTE) 2013 (PC)
- Grace Hopper Celebration of Women Conf. (Software Engineering Track) 2013 (PC)
- ICSE Student Research Competition Committee 2013
- JPF Workshop 2012-2013 (PC)
- Runtime Verification (RV) 2011 (PC)

Organizing Committee Membership

- NASA Formal Methods Symposium 2012 (Co-Chair)
- Int'l Conference Automated Software Engineering 2015 (Finance Chair)

Steering Committee Membership

- NASA Formal Methods Symposium 2013-2015

Other

- Dissertation committee member for Ms. Baishakhi Ray (University of Texas at Austin).
- Google Summer of Code Mentor 2010-2013
- NASA Liaison on the UNL CSE Industry Advisory Panel 2011-2014
- Reinvent Computer Science Curriculum Project 2003-2004

Software and Innovations

- Lead designer and developer of curriculum and new courses for Software Engineering major.
- C Impact Analysis Framework: Invention Disclosure e-NTR#:1393341390. Released under NOSA open source license.
- Java Impact Analysis Framework: Invention Disclosure e-NTR#:1392742578. Released under NOSA open source license.
- Abstract Syntax Tree Revision Observer (ASTro). Released under Apache open source license.
- Bug Hunt: Web Tutorial to Assist Learning of Software Testing in CS1 and CS2.

Teaching

- Fall 2015: CSCE 425/825 Compiler Construction
- Spring 2004: CSCE 464/864 Internet Programming (co-taught with Dr. S. Reichenbach)
- Spring 2004: JDEP 302H: Design Studio II (Honors Capstone course)
- Spring 2004: JDEP 402H: Design Studio IV (Honors Capstone course)
- Fall 2003: JDEP 301H: Design Studio I (Honors Capstone course)
- Fall 2003: JDEP 401H: Design Studio III (Honors Capstone course)
- Spring 2003: JDEP 302H: Design Studio II (Honors Capstone course)
- Spring 2003: JDEP 402H: Design Studio IV (Honors Capstone course)
- Fall 2002: JDEP 301H: Design Studio I (Honors Capstone course)
- Fall 2002: JDEP 401H: Design Studio III (Honors Capstone course)