

# Suzette Person

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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 36<sup>th</sup> 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 36<sup>th</sup> 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 36<sup>th</sup> 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 28<sup>th</sup> 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 28<sup>th</sup> IEEE Conference on Software Maintenance*, Sept. 2012.
- S. Person, G. Yang, N. Rungta, and S. Khurshid, "Directed Incremental Symbolic Execution" in *Proceedings of the 32<sup>nd</sup> 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 16<sup>th</sup> 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 29<sup>th</sup> 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 29<sup>th</sup> 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 14<sup>th</sup> 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 10<sup>th</sup> 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 36<sup>th</sup> 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 36<sup>th</sup> 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)