

Patrick Morrison
Curriculum Vitae

Personal Information

4542 Treerose Way, Raleigh, NC 27606
Cell (954) 401-7768
Email: pjmorris@ncsu.edu
Website: <http://www4.ncsu.edu/~pjmorris/>
Citizenship: U.S.A

Education

- 2011- (Expected 2017) Ph.D. Computer Science, North Carolina State University, Raleigh, NC
Advisor: Dr. Laurie Williams
Dissertation: "A Security Practices Evaluation Framework"
Description: Researched security practice use in software development teams. Developed a measurement framework for observing, recording, and analyzing security practice use and security outcomes over time in software development projects. Applied the framework to process improvement for security in open source and industrial projects.
- 2007 Master of Science, Computer Science
Advisor: Eduardo B. Fernandez
Florida Atlantic University, Boca Raton, FL
- 1986 Bachelor of Science, Computer Science
University of Florida, Gainesville, FL

Dissertation

P. Morrison "A Security Practices Evaluation Framework", PhD thesis, North Carolina State University, 2016.

Work In Progress

- P. Morrison, R. Pandita, X. Xiao, R. Chillarege, L. Williams, "Are Vulnerabilities Discovered and Resolved like Other Defects?", submitted to 'Empirical Software Engineering'
- P. Morrison, D. Moye, R. Pandita, L. Williams, "A Systematic Mapping Study of Security Metrics for Software Development", in preparation for 'Information and Software Technology'.
- P. Morrison, B. Smith, L. Williams, "Measuring Security Practice Use in Software Development" in preparation.
- P. Morrison, L. Williams, "Modeling Security Practice Use in Software Development" in preparation.

Conference Papers

P. Morrison, R. Pandita, E. Murphy-Hill, "Veteran Developers' Contributions and Motivations: An Open Source Perspective", accepted for IEEE Symposium on Visual Languages and Human-Centric Computing 2016, Cambridge, UK.

P. Morrison, K. Herzig, B. Murphy, L. Williams, "Challenges in the Practical Use of Vulnerability Prediction Models", 2nd Symposium and Bootcamp on the Science of Security (HotSoS), Urbana-Champaign, IL, 2015

C. Theisen, K. Herzig, P. Morrison, B. Murphy, L. Williams, "Approximating Attack Surfaces with Stack Traces", International Conference on Software Engineering, Software Engineering in Practice track, Florence, Italy, 2015

P. Morrison, L. Williams, C. Holmgreen, A. Massey, "Proposing Regulatory-Driven Automated Test Suites", Agile 2013, Nashville, TN, 2013 *Best Paper Award*.

Workshop Papers

P. Morrison "A Security Practices Evaluation Framework", Doctoral Symposium, International Conference on Software Engineering, Software Engineering in Practice track, Florence, Italy, 2015

P. Morrison, E. Murphy-Hill, "Is Programming Knowledge Related to Age? An Exploration of StackOverflow", 10th Working Conference on Mining Software Repositories, Mining Challenge Track, San Francisco, CA, 2013.

P. Morrison, L. Williams, C. Holmgreen, A. Massey, "Proposing Regulatory-Driven Automated Test Suites for Electronic Health Record Systems", 3rd Workshop on Software Engineering in Health Care, International Conference on Software Engineering (ICSE) 2013, San Francisco, CA, 2013

M. Barnett, B. Chandramouli, R. DeLine, S. Drucker, D. Fisher, J. Goldstein, J. Platt, P. Morrison, "Stat! – An Interactive Analytics Environment for Big Data", ACM SIGMOD International Conference on Management of Data, New York, NY, June 2013

P. Morrison, L. Williams, "An Analysis of HIPAA Breach Data", HealthSec '12 Proceedings of the 3rd USENIX conference on Health Security and Privacy, Bellevue, WA, 2012

P. Morrison and E.B.Fernandez, "The Credentials pattern", *Proceedings of the 13th Conference on Pattern Languages of Programs, PLoP 2006*, Portland, OR, October 21-23, 2006,

P. Morrison and E.B.Fernandez, "Securing the Broker pattern", *Proceedings of the 11th European Conf. on Pattern Languages of Programs (EuroPLoP 2006)*, Irsee, Germany, July 5-9, 2006.

Book Chapters

P. Morrison, E.B. Fernandez, "The Credentials Pattern", "Security Patterns in Practice: Designing Secure Architectures Using Software Patterns", Wiley, 2013.

P. Morrison and E.B.Fernandez, "Securing the Broker pattern", "Security Patterns in Practice: Designing Secure Architectures Using Software Patterns", Wiley, 2013.

Other

P. Morrison, "Model-Driven Architecture and the Secure Systems Methodology", Master's Thesis, Florida Atlantic University, 2007

Awards

2014-2016 IBM PhD Fellowship

Academic/Teaching Experience

- 2011-present Research Assistant, North Carolina State University
Assistant to Dr. Laurie Williams, worked on security problems in software engineering and electronic health care.
- 2015 PhD Internship, IBM, Research Triangle Park, NC, USA
Research on security practice use in software development teams leading to first author on “Surveying Security Practice Use in Software Development”
- 2014 PhD Internship, IBM, Research Triangle Park, NC, USA
Development on Bluemix Cloud Platform.
- 2013 PhD Internship, Microsoft Research, Cambridge, UK
Research on vulnerability prediction models leading to first author on HotSOS paper.
- 2012 PhD Internship, Microsoft Research, Redmond, WA
Research on interactive statistics environment leading to co-author on SIGMOD Demo paper.
- 2011 Teaching Assistant, North Carolina State University
Taught lab section of undergraduate Software Engineering project course, received NCSU ‘Thank A Teacher’ recognition from students.
- 2005-2006 Research Assistant, Secure Systems Group, Florida Atlantic University
Assistant to Dr. Eduardo Fernandez, researching distributed systems security and its presentation in pattern form. Researched Model-Driven Architecture for secure systems development. Guest lectured in several software architecture classes.
- 2002 Adjunct Professor, Florida Atlantic University
Co-developed and taught capstone Systems Development Project with C# undergraduate course in the department of Information Technology and Operations Management
- 2001 Led the team which developed and presented two sessions of a week-long course on custom development for a CRM package.

Work Experience

- 2014-Present Solutions Developer, Emerging Technology Institute, IBM Software Group, Research Triangle Park, NC
Integrated Bluemix/CloudFoundry with NCSU LDAP identity management.
- 2008-2011 Systems Analyst, NCCI Holdings, Inc.
Software development in .NET and SQL (Oracle) on 2-12 person project teams.
- 2002-2008 Independent Consultant
Designed and developed custom database and website software, and offering technical advice and project management for firms ranging from small to Fortune 500.

- 2003-2005 Senior Consultant, Meridian Partners
Software design, development and project management for consulting firm's clients.
- 2001 Senior Consultant, Soluxions, Inc.
Business analysis, database and query development for firm's clients
- 2000-2001 Senior Consultant, Breakaway Solutions, Inc
Team implemented Web-based CRM, including requirements gathering, planning, design and custom coding. Performed project team management, mentoring and training.
- 1997-2001 Senior Consultant, Information Technology Consulting, Inc.
Performed analysis, design and custom software development for firm's clients.
- 1996-1997 Systems Engineer, Compris Technologies, Inc.
Acted as technical liaison between software firm and client implementing Point-of-Sale software. Analyzed client needs, software capabilities and worked to meet client needs through implementation and negotiation.
- 1991-1996 Programmer/Analyst, Darden Restaurants, Inc., Orlando, FL
Analysis, design, coding, support and maintenance of in-store and corporate applications running on PC's and LAN's.
- 1990-1991 Programmer/Analyst, Distributed Technologies, Inc., Jacksonville, FL
Developed utilities and libraries for custom package in C on DOS and Windows.
- 1986-1990 Software Engineer, NCR Corporation, Lake Mary, FL
Developed and maintained PC servers for communications, printing and diagnostics in C and MASM, UNIX device drivers.

References

Dr. Laurie Williams
Department of Computer Science
North Carolina State University
890 Oval Drive, EB2, Room 3272
Campus Box 8206
Raleigh, NC 27695-8206
Email: lawilli3@ncsu.edu

Dr. A.J. (Andy) Rindos
Emerging Technology Institute
International Business Machines,
Research Triangle Park, Bldg. 500
Durham, NC 27709
Email: rindos@us.ibm.com

Dr. Emerson Murphy-Hill
Department of Computer Science
North Carolina State University
890 Oval Drive, EB2, Room 3296
Campus Box 8206
Raleigh, NC 27695-8206
Email: ermurph3@ncsu.edu

Dr. Eduardo B. Fernandez
Department of Computer & Electrical
Engineering and Computer Science
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431, USA
Email: fernande@fau.edu
Phone: (561) 297-3466