

Aaron Massey

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EDUCATION

North Carolina State University, Raleigh, NC

PhD in Computer Science, Advisor: Dr. Annie I. Antón **Expected May 2012**

Dissertation Title: Improving Regulatory Compliance Decisions with Legal Requirements Metrics

Researched computer privacy and security topics, including legal compliance in software and prevention of data breaches. Developed methods for improving traceability from legal and policy documents to software requirement specifications. Developed metrics and techniques for improving developer decision making in areas of legal compliance.

MS in Computer Science **May 2009**

Completed core course requirements and researched a method for evaluating the legal compliance of existing security and privacy software requirements.

Purdue University, West Lafayette, IN

BS in Computer Engineering **May 2003**

Studied computer network security with Professor Carla Brodley. Created a Denial of Service (DoS) attack detector and analyzed how an Intrusion Detection System (IDS) can fail gracefully.

EXPERIENCE

North Carolina State University, Raleigh, NC

Instructor of Record for CSC 216 — Programming Concepts in Java **Summer 2011**

Taught the second course in computer programming concepts for computer science majors as the instructor of record. Designed course materials including quizzes, exercises, two five-week long programming projects, exams, and study materials.

Graduate Research Assistant to Dr. Annie I. Antón **May 2007 to Present**

Conducted research open source electronic health records systems and healthcare information technology standards. Analyzed the legal compliance of health records systems developed and maintained by the National Collaborative for Bio-Preparedness.

Institute for Defense Analysis, Alexandria, VA

Information Technology Systems Division Summer Intern **Summer 2010**

Designed and implemented a software prototype to manage software requirements as a part of the United States export control process for militarily critical technologies. Examined the evolution of information technology to support this software prototype.

CERIAS, Purdue University, West Lafayette, IN

Research Assistant to Dr. Eugene Spafford

Summer 2009

Researched the implementation of legally-required auditing mechanisms in information systems at the Center for Education and Research in Information Assurance and Security (CERIAS). Designed a case study to investigate current industry practices in this research area. Implemented tool support to improve these legal compliance efforts.

Cato Institute, Washington, DC

Google Policy Fellowship

Summer 2008

One of 12 students selected in North America for a Google Policy Fellowship (~3% acceptance rate). Contributed to the Cato Institute's study of policy that balances privacy, anonymity, security, and convenience in identification and authorization systems infrastructure.

Advanced Micro Devices, Austin, TX

Software Engineer & System Design Engineer

Jun. 2003 to Aug. 2006

Authored, debugged, and tested various Linux Device Drivers for the Alchemy MIPS and Geode x86 embedded processor group, including a dynamic power management driver which allowed for any device to be individually power managed automatically as a part of an overall system policy. Wrote initial object oriented SimNow models for parts of the Geode x86 embedded processor line.

Co-Op Student Intern

Jan. 2001 to Aug. 2001

Tested the AMD PowerNow! power management algorithm along with other candidate algorithms. Wrote Linux documentation for upcoming Linux projects. Programmed, debugged and tested BIOS code in x86 Assembly for customer reference motherboards.

Siemens ICN, Boca Raton, FL

Co-Op Student Intern

Fall 1999 and Summer 2000

Programmed an interface to a Knowledge Support Systems database in Visual Basic. Trained on the use and maintenance of a telephone relay switching system. Reviewed, tested and edited procedures for troubleshooting and upgrading telephone relay switching systems.

PUBLICATIONS

Book Chapters, Journals, and Conferences

Behavioral Advertising Ethics

Aaron K. Massey and Annie I. Antón

Information Assurance and Security Ethics in Complex Systems: Interdisciplinary Perspectives

Dr. Melissa Dark, ed., page 22. IGI Global, 2010.

Evaluating Existing Security and Privacy Requirements for Legal Compliance

Aaron K. Massey, Paul N. Otto, Lauren J. Hayward, and Annie I. Antón

Requirements Engineering Journal, Special Issue on Security Requirements Engineering, Volume 15, Issue 1 (2010), pp. 119-137.

Assessing the Accuracy of Legal Implementation Readiness Decisions

Aaron K. Massey, Ben Smith, Paul N. Otto, and Annie I. Antón

19th IEEE Int'l Conference on Requirements Engineering, Trento, Italy, September 2011.

Workshops and Posters

Prioritizing Legal Requirements

Aaron K. Massey, Paul N. Otto, and Annie I. Antón

Second International Workshop on Requirements Engineering and Law, Atlanta, GA, September 2009.

A Requirements-based Comparison of Privacy Taxonomies

Aaron K. Massey and Annie I. Antón

First International Workshop on Requirements Engineering and Law, Barcelona, Spain, September 2008.

Aligning Requirements with HIPAA in the iTrust System

Aaron K. Massey, Paul N. Otto, and Annie I. Antón

16th IEEE International Requirements Engineering Conference, Barcelona, Spain, September 2008.

PRESENTATIONS

Commenter and Panel Moderator, Berkeley, CA

Summer 2011

Summarized Peter Swire's arguments in his paper *Social Networks, Privacy, and Freedom of Association*. Commented on potential implications of his conclusions. Moderated further discussion of the paper.

IAS Information Ethics Workshop, West Lafayette, IN

Spring 2010

Conducted a three hour workshop on the ethics of behavioral advertising. Produced discussion questions and classroom support material for teaching behavioral advertising ethics at the university level.

CERIAS Symposium Panelist, West Lafayette, IN

Spring 2010

Discussed information security ethics, with particular emphasis on ethical development of tools, protocols, and techniques, as a panelist at the CERIAS Symposium. Responded to questions from audience members and panelists.

TEACHING

North Carolina State University, Raleigh, NC

Instructor for CSC 216 — Programming Concepts in Java

Summer 2011

Taught the second course in computer programming concepts for computer science majors as the instructor of record. Designed course materials including quizzes, exercises, two five-week long programming projects, exams, and study materials.

TA for CSC 591e / CSC 791e — Requirements Engineering

Spring 2010 & Spring 2012

Supported curriculum planning, grading, and teaching of a graduate-level course in the computer science department on software requirements engineering.

TA for CSC591e / CSC791e — Privacy Technology, Law & Policy

Spring 2009 & Spring 2011

Supported curriculum planning, grading, and teaching of a new graduate-level course in the computer science department on privacy technologies and their impact on law and policy.

Guest Lecturer for CSC510 — Graduate Software Engineering

Fall 2009 through Fall 2011

Lectured for at least ten separate class periods on topics including an Introduction to Software Engineering, Software Processes, Software Planning, Risk Management, Project Scheduling, Project Estimation, and Formal Methods.

HONORS & AWARDS

North Carolina State University

- Google Policy Fellowship Recipient
- Walter H. Wilkinson Graduate Research Ethics Fellowship Recipient
- IAPP 2010 Summit KPMG Scholarship Recipient

Purdue University

- Fessenden-Trott Scholarship Recipient
- Dean's Engineering Scholar at Purdue University
- Semester Honors (Fall 1998, Spring 1998, Fall 1999, and Fall 2001)

Noblesville High School

- National Merit Scholarship Recipient
- Two-time World Finalist in the Odyssey of the Mind creative problem solving competition
- Ranatra Fusca Award Winner

SERVICE ACTIVITIES

- Student Volunteer, 16th International Requirements Engineering Conference, 2008.
- Provided research and editing services for Dr. Antón's congressional testimony before the U.S. House of Representatives Ways & Means Subcommittee on Social Security regarding the protection of Social Security Numbers (June 21, 2007).
- Provided research and editing services for Dr. Antón's presentation as a panelist at the Federal Trade Commission's workshop entitled "Security in Numbers: SSNs and ID Theft" (Dec. 10-11, 2007).
- Provided research and editing services for Dr. Antón's congressional testimony before the U.S. House of Representatives Ways and Means Subcommittee on Social Security concerning the Social Security Administration's role in verifying employment eligibility (E-Verify) (April 14, 2011).

LEADERSHIP ACTIVITIES

Co-founder, NCSU Software Engineering Journal Club

PROFESSIONAL AFFILIATIONS

Member of The Privacy Place, since January 2006

Member of the Institute for Electrical and Electronics Engineers (IEEE), since December 2006

Member of the Association for Computing Machinery (ACM), since June 2007

Member of the U.S. Public Policy Committee of the ACM (USACM), since June 2007

Member of the International Association of Privacy Professionals, since March 2008

EXTRACURRICULAR ACTIVITIES

Winner of Bruce Schneier's 2008 Movie Plot Threat competition.

Former Site Admin for the official Gentoo Linux support forums.

Active in the open source software community since 1999.

Member of the Purdue Society of Professional Engineers Rube Goldberg team.

Mentor with the Ligon Adoption Mentoring Program at Ligon Middle School in Raleigh, NC.

SKILLS

Spoken Languages: English (native), German (4 years)

Computer Languages: C, C++, Java, Python, Ruby, JavaScript, HTML, Bash, MATLAB and FORTRAN 77

Operating Systems: Mac OS X, Linux (Gentoo, Red Hat, SuSE, Ubuntu and Debian), FreeBSD

Architectures: x86, x86-64, MIPS, PowerPC

Development Environments: vim, Eclipse, NetBeans