

JOSHUA A. KROLL

Center for Information Technology Policy
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EDUCATION

Princeton University Princeton, NJ • PhD Candidate (2009-Present) in Computer Science
Emphasis: Security, Privacy and Technology Policy. Advisor: Ed Felten

Princeton University Princeton, NJ • MA (2011): Computer Science
General Exam Title: "Portable, Verifiable Low-Level Memory Safety"

Harvard College Cambridge, MA • AB (2009): Physics and Mathematics. Secondary Field: Computer Science
John Wood Science Prize, Adams House Arms

WORK HISTORY

Google, Inc. (Summer 2011)
Intern, Engineering

- Worked on infrastructure-level projects involving security and privacy.

Google, Inc. (Summer 2010)
Intern, Public Policy Group

- Provided technical assessment of product privacy issues with legal and policy implications.

SRI International (Summer 2008, 2009)
Student Associate, Computer Science Lab

- Research in software-based containment solutions ("Sandboxing") for 64-bit x86 architectures, pairing-based cryptography, and formal systems analysis.

Akamai Technologies, Inc. (June 2007-June 2008)
Software Engineering Intern, Mapping Division

- Designed & developed tools to monitor health/performance of the worldwide Domain Name System (DNS). Evaluated performance, failure modes, and security of common client-side DNS software.

Monterey Bay Aquarium Research Institute (Summer 2006)
Intern, Software Engineering

- Designed, implemented, and tested automated image classification unit for a computer vision system.

Naval Postgraduate School - Department of Computer Science (June 2004-August 2005)
Research Intern

- Performed research in Artificial Intelligence/Natural Language Processing as applied to human gestures.

Monterey Bay Aquarium (June 2001-August 2006)
Volunteer Guide

- Educated visitors as docent, presenter (6-7 shows/month; audiences of 150-450). Mentor and Tour Guide Certifications; 1000-Hour Service Award.

HONORS AND AWARDS

- National Science Foundation Graduate Research Fellowship (Honorable Mention: 2010; Award: 2011-2014)
- John Wood Prize for Science (2009), Adams House, Harvard University
- Adams House Arms (2009), Harvard University, for service and citizenship in the Adams House community.
- Member, NSF CISE Pathways to Revitalized Undergraduate Computing Education (CPATH) Rebooting Computing Summit Design Committee (Peter J. Denning, Chair) (2008-2009).
- Second Place Award, 2005 National Junior Science and Humanities Symposium (Top 12 of 10,000 participants nationally. \$7000 Prize. Sponsors: Office of Naval Research, Army Research Office, USAF Research Office).

- Senator Robert C. Byrd Honors Scholarship, \$6000 (2005).
- National Grand Prize, American Association of Teachers of German Endowed Scholarship Award (2003).

TEACHING

- Princeton University, Department of Computer Science. Assistant in Instruction, Computer Science 226: Algorithms and Data Structures. Professor Robert Sedgewick, Instructor. Spring 2011.
- Princeton University, Department of Computer Science. Assistant in Instruction, Computer Science 432: Information Security. Professor Edward Felten, Instructor. Fall 2010.
- Harvard University, Department of Mathematics. Head Course Assistant (of 6), Mathematics 23a/b: Linear Algebra and Real Analysis I/II. Dr. Paul G. Bamberg, Instructor. 2006-2007.

ACTIVITIES AND LEADERSHIP

- Harvard Computer Society: President (2008), Director of Systems (2007)
 - Managed production-grade computer systems with over 6500 users. Negotiated over \$45,000 in grants.
- Student member (2009), Harvard Faculty of Arts and Sciences Committee on Information Technology
- Harvard-Radcliffe Chorus: President (2007-2008), Vice-President (2006-2007, 2008-2009)
- Ig Nobel Prize Ceremony: Member, Central Committee (2007-2009), Assistant Stage Manager (2006-2009)
- Harvard-Radcliffe Society of Physics Students: Secretary (2007-2008)

PUBLICATIONS AND PRESENTATIONS

- Kroll, J. and D. Dean, "BakerSFIEld: Bringing Software Fault Isolation to the x64," SRI Computer Science Laboratory Technical Report, 2009.
- Martell, C. and J. Kroll, "Corpus-Based Gesture Analysis: An extension of the FORM dataset for the automatic detection of phases in a gesture," *Int. J. Semantic Computing*, 1(4): 521-536 (2007).
- Martell, C. and J. Kroll, "Using FORM to Predict Phase Labels," *Proceedings of the Language Resources and Evaluation Conference, Workshop on Multimodal Corpora*, June 2006.
- Kroll, J. "Seeing Under Sea: Applications of Computer Vision in Underwater Video," *Plenary Address*, Harvard Undergraduate Research Symposium, Nov. 2006 (Accepted by faculty review; top 3 of 140 papers).