JOEL H. WEINBERGER

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Education and Work Experience

- **University of California, Berkeley**—Berkeley, CA
  Ph.D., Computer Science (Expected 2013)
- **Brown University**—Providence, RI
  M.S. (May, 2007), B.S. Computer Science and History (May, 2007 – Double Concentration)
  - GPA: 4.0/4.0 (Computer Science M.S.), 3.90/4.00 (Computer Science B.S.), 3.80/4.0 (History)
  - Elected Phi Beta Kappa, April, 2007
- **Sun Microsystems**—San Francisco, CA
  Software Engineer, July 2007 - July 2008
  - Full-time software engineer in the Fishworks advanced development team.
  - Extended Solaris to an appliance kit framework, specifically in the Sun Storage 7000 series of NAS products. Worked on iSCSI and FTP integration, clustering interface support, and appliance application stack management.
  - Worked on operating system, application, and AJAX web development.

Publications

- *Cross-Origin JavaScript Capability Leaks: Detection, Exploitation, and Defense*
  Adam Barth, Joel Weinberger, Dawn Song
  USENIX Security Symposium, 2009

- *Composition with Consistent Updates for Abstract State Machines*
  Colin Gordon, Leo Meyerovich, Joel Weinberger, Shriram Krishnamurthi
  International ASM Workshop, 2007

- *Operating System Protection Domains*
  Eric Tamura, Joel Weinberger, and Aaron Myers
  Brown University Technical Report, CS-08-02

- *ASM Relational Transducer Security Policies*
  Leo Meyerovich, Joel Weinberger, Colin Gordon, Shriram Krishnamurthi
  Brown University Technical Report, CS-06-12

Research

- **JavaScript Heap Graph Analysis,** *Fall 2008–Present*
  - Instrumenting a JavaScript engine to map JavaScript objects and their relationships to one another. Using this tool to verify the security of web browsers as well as find vulnerabilities in them.
- **Verification of Web Programs,** *Spring 2006–Summer 2007*
  - Modeling a verifiable access control system for a web based application and developed an atomic update module operator for Abstract State Machines
- **Operating System Sandboxing,** *Spring 2006–Spring 2007*
  - Developed a subject-based access control and sandboxing system for securely running potentially malicious programs
- **Immersive Scientific Visualization,** *June 2005–December 2005*
  - Designed virtual reality interfaces for scientific visualization in CAVE virtual reality environment

Projects

- **Operating System**
  - Wrote a Unix-derived operating system. Project included a full working, multi-process kernel, file system, and virtual memory
- **Multiplayer 3D Real Time Strategy Game**
  - Developed the architecture and logic of a networked real time strategy game on a five person team

Course work

- **Berkeley** Security, Program Analysis, Network Security, Systems, Cryptography.
- **Brown** Operating Systems, Programming Languages, Dynamic Access Control and Verification, Combinatorial Optimization, Computer Networks.

Other Work Experience

- **Intern Software Engineer**, *VMware, Summer 2006*: Intern in the VMware ESX Core Kernel group. Developed shared memory infrastructure and additional signal handling capabilities.
- **Course Developer**, *Brown University, Fall 2005*: Designed lectures, created course material, including homeworks, projects, and labs for new Computer Security course
- **Teaching Assistant**, *Brown University, Fall 2005 - present*: Hold office hours, lead lab sections, create and grade assignments for Computing Systems, Computer Security, and Operating Systems, courses
- **Lab Consultant**, *Brown University, Fall 2005 - present*: Support over 70 workstations (Linux and Windows)

Technical Skills

- **Computer Systems**: Unix, Linux, Windows
- **Programming Languages**: C/C++, Java, Scheme, JavaScript

Interests

- Rock Climbing, Tap Dance, Skiing (alpine and water), Road Biking, Ultimate Frisbee, History