

JEFFREY S. DWOSKIN
jdwoskin@princeton.edu

Phone: 732-236-3893
Home Address:
301A Halsey Ct
Princeton, NJ 08540

School Address:
Department of Electrical Engineering
Princeton University
Princeton, NJ 08544

EDUCATION:

- 2002-Present – Princeton University – Princeton, NJ, Electrical Engineering Dept, Graduate School
Ph.D. Program in Computer Engineering, Research Advisor: Ruby B. Lee
Degree expected summer 2009
- Nov 2004 – M.A. Electrical Engineering, Princeton University
- 1998-2002 – Rutgers University – Piscataway, NJ, School of Engineering, Honors Program
B.S. Computer Engineering, GPA. 3.846, Major GPA 3.91
Graduated May 23, 2002 with Highest Honors
- 1995-1998 – Brookdale Community College – Lincroft, New Jersey (During High School)

CURRENT RESEARCH INTERESTS:

Trusted Computing, Computer/System Security, Operating System & Application Security, Malicious Software/Malware, Computer Architecture, Virtual Machines, Privacy Technology

PUBLICATIONS & TECHNICAL REPORTS:

Jeffrey Dvoskin, Mahadevan Gomathisankaran, Ruby Lee. “Framework for Design Validation of Security Architectures,” *Princeton University Department of Electrical Engineering Technical Report CE-L2008-XXX*, November 2008.

Timothy Levin, Jeffrey Dvoskin, Ganesha Bhaskara, Thuy Nguyen, Paul Clark, Ruby Lee, Cynthia Irvine, Terry Benzel . “Securing the Dissemination of Emergency Response Data with an Integrated Hardware-Software Architecture,” to appear at *2nd International Conference on Trusted Computing (TRUST 2009)*, Oxford, U.K., April 2009.

X. Chen, T. Garfinkel, E. C. Lewis, P. Subrahmanyam, C. A. Waldspurger, D. Boneh, J. Dvoskin, D. R. K. Ports, “Overshadow: A Virtualization-Based Approach to Retrofitting Protection in Commodity Operating Systems,” *Proc. of the Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, March 2008.

Dahai Xu, Jianwei Huang, Jeffrey Dvoskin, Mung Chiang, Ruby Lee, “On Secure Key Management in Mobile Ad Hoc Networks” – *Journal paper, in submission*

Jeffrey Dvoskin, Ganesha Bhaskara, Thuy D. Nguyen, Ruby Lee, “SecureCore Prototype/Demo Manual,” Version 1.0. *Princeton University Department of Electrical Engineering Technical Report CE-L2008-XXX*, 8/11/2008.

Jeffrey Dvoskin and Ruby B. Lee, “SP Processor Architecture Reference Manual,” *Princeton University Department of Electrical Engineering Technical Report CE-L2008-XXX*, 8/11/2008. (Previous version: CE-L2007-009. Version 0.7, 11/21/2007)

Jeffrey Dvoskin and Ruby B. Lee, “Hardware-rooted Trust for Secure Key Management and Transient Trust,” *Proc. of the 14th ACM Conference on Computer and Communications Security (CCS 2007)*, pp. 389-400, October 2007.

Jeffrey Dvoskin, Dahai Xu, Jianwei Huang, Mung Chiang, and Ruby B. Lee, “Secure Key Management Architecture Against Sensor-node Fabrication Attacks.” *IEEE GlobeCom 2007*, Washington, DC, November 2007

Jeffrey Dvoskin and Ruby B. Lee, “Processor Architecture for Remote, Transient, Policy-controlled Secrets,” *Princeton University Department of Electrical Engineering Technical Report CE-L2006-007*, November 2006.

Ganesha Bhaskara, Timothy E. Levin, Thuy D. Nguyen, Cynthia E. Irvine, Terry V. Benzel, Jeffrey Dwoskin and Ruby B. Lee, "Virtualization of Secure Processor Key Management within a Separation Kernel Architecture," *Princeton University Department of Electrical Engineering Technical Report CE-L2006-006*, November 2006.

Ruby B. Lee, Jeffrey Dwoskin, and David Champagne, "Fundamental Architectural Features in SP processors for Protecting Sensitive Information," submitted to *IEEE Micro Hot Tutorials*, 2006. (in submission)

Dahai Xu, Jianwei Huang, Jeffrey Dwoskin, Mung Chiang, and Ruby Lee, "Re-examining Probabilistic Versus Deterministic Key Management," *ISIT'07*, Nice, France, <http://www.princeton.edu/~dahaixu/pub/key/key.pdf>.

Jeffrey Dwoskin and Ruby B. Lee, "Enabling Transient Access to Protected Information for Crisis Response," *Princeton University Department of Electrical Engineering Technical Report CE-L2006-001*, May 2006.

Ruby B. Lee, Peter C. S. Kwan, John Patrick McGregor, Jeffrey Dwoskin, and Zhenghong Wang, "Architecture for Protecting Critical Secrets in Microprocessors," *Proceedings of the 32nd International Symposium on Computer Architecture (ISCA 2005)*, pp. 2-13, Madison, Wisconsin, June 2005.

Jeffrey Dwoskin, Sujoy Basu, Vanish Talwar, Raj Kumar, Fred Kitson, and Ruby Lee, "Scoping Security Issues for Interactive Grids," *Proceedings of the 37th Asilomar Conference on Signals, Systems, and Computers*, pp. 367-373, November 9-12, 2003.

TEACHING EXPERIENCE

Assistant in Instruction. ELE 386 – Cyber Security. Professor Ruby Lee, Electrical Engineering. Spring 2005 & Spring 2006

EMPLOYMENT:

Summer 2008: PALMS Research Assistant – Princeton University – Princeton, NJ
Summer 2007: VMware Inc. – Virtual Machine and OS Security – Palo Alto, CA
Overshadow project; Mentor Mike Chen.
Summer 2005, 2006: PALMS Research Assistant – Princeton University – Princeton, NJ
Summer 2004: Hewlett Packard, Research Labs – Privacy and Auditing Systems – Princeton, NJ
Summer 2003: PALMS Research Assistant – Princeton University – Princeton, NJ
Summer 2002: Morgan Stanley – IT Department – Fax & Messaging Development – New York, NY
Summer 2001: Microsoft Software Development Engineer in Test, Summer Intern,
Windows Media Platform Group, Digital Media Division – Redmond, WA
Summer 2000: Fort Monmouth (Department of Defense – US Army), Summer Intern
Information Security Lab – Fort Monmouth, NJ
April 1997 – Present: Founder/Executive Vice President of Faradic Internet Services – Little Silver, NJ

ACTIVITIES (Princeton):

Graduate Student Government –
Treasurer & Executive Committee
Council of the Princeton University Community –
Graduate Student Representative
CPUC Priorities Committee Member –
(advises on the University operating budget)
Various other policy & advisory committees

HONORS AND ACTIVITIES (Rutgers):

School of Engineering Honors Program
College of Engineering Dean's List
Edward J. Bloustein Distinguished Scholar
Outstanding Scholar Recognition Program Scholarship
Engineering Governing Council Member
Golden Key National Honor Society Member
Eta Kappa Nu Executive Board Member
IEEE Executive Board Member

GRADUATE COURSEWORK:

Domestic Policy Analysis	Great Moments in Computing	Switching and Sequential Systems
Privacy: Technology and Policy	Processor Arch for New Paradigms	Linear Systems Theory
Information Technology & the Law	Computer Architecture	Low Power Design
Information Security	Parallel Arch & Programming	Compiling Techniques

UNDERGRADUATE COURSEWORK (G – Graduate Course):

Research in VLSI Testing	Special Problems in Computer	Operating Systems Design
Testing of ULSI Circuits (G)	Graphics	Distributed Systems
Intro to VLSI Design	Virtual Reality	Computer Architecture
Visualization and Advanced	Robotics and Computer Vision	Digital Electronics
Computer Graphics (G)	Digital Systems Design	Electronic Devices
	Intro to Software Engineering	Digital Signal Processing

RELEVANT SKILLS:

Security & Privacy (Applications of Cryptography, Security Design, Analysis & Research, Trusted Computing, Threat Models, Malware and Malicious Software, Privacy Policies, Privacy Enforcement and Auditing Systems, etc.)

Computer Architecture (Architecture for Security, Instruction Set Architecture Design, Virtual Machine Architectures, Simulation – SimpleScalar, etc.)

Programming (C, C++, Java, Java RMI, Perl, SQL Databases, Perl DBI, Bash/Shell Scripting, XML, VHDL, Matlab, Turbo Pascal, Visual Basic, VBScript, MIPS Assembly Language, HTML, CSS, CGI, SSI, etc.)

Operating Systems, Servers & Applications (DOS, Windows 3.11/95/98/ME/NT/2000/XP, Linux, SunOS, MacOS, Cisco IOS, X Windows, Microsoft Office, Adobe Photoshop, QuickBooks, etc.)

Internet Networking (Network Design, Ethernet, TCP/IP, routing, proxy servers, PPP, etc.)

Network & System Security (Router Access-Lists, Firewalls, Content-Based Access Control (CBAC), Intrusion Detection Systems (IDS), Network Monitoring, Spam, Viruses, Digital Rights Management, Denial of Service, Fraud Detection and Handling)

Business & Customer Relations (Technical and Non-Technical Support, Sales, Contract Management, In-person Instruction, Record Keeping, Business Finance, Industry Awareness, etc)

VLSI (Cadence Design System (Virtuoso Schematic & Layout Editor, Verilog XL, Spectre Simulation), Synopsis Synthesis System & VHDL)