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Education

9/2005–Present University of California San Diego.
M.S., C.Phil., and Ph.D. (expected June, 2012) in systems security
Advisor: Hovav Shacham.

9/2001–6/2005 University of Washington.
B.S. in mathematics; B.S. in computer science; minor in physics.

Publications

Refereed papers

A. Sarwate, S. Checkoway, and H. Shacham. Which alternatives to plurality voting can be audited efficiently? *Statistics, Politics and Policy*, 2012. To appear.

S. Checkoway, D. McCoy, D. Anderson, B. Kantor, H. Shacham, S. Savage, K. Koscher, A. Czeskis, F. Roesner, and T. Kohno. Comprehensive experimental analyses of automotive attack surfaces. In D. Wagner, ed., *Proceedings of USENIX Security 2011*. USENIX, Aug. 2011. Finalist for the 2011 NYU-Poly AT&T Best Applied Security Paper Award.

S. Meiklejohn, K. Mowery, S. Checkoway, and H. Shacham. The phantom tollbooth: Privacy-preserving electronic toll collection in the presence of driver collusion. In D. Wagner, ed., *Proceedings of USENIX Security 2011*. USENIX, Aug. 2011.

C. Kanich, S. Checkoway, and K. Mowery. Putting out a HIT: Crowdsourcing malware installs. In D. Brumley and M. Zalewski, eds., *Proceedings of WOOT 2011*. USENIX, Aug. 2011.

S. Checkoway, L. Davi, A. Dmitrienko, A.R. Sadeghi, H. Shacham, and M. Winandy. Return-oriented programming without returns. In A.D. Keromytis and V. Shmatikov, eds., *Proceedings of CCS 2010*, pp. 559–572. ACM Press, Oct. 2010.

S. Checkoway, A. Sarwate, and H. Shacham. Single-ballot risk-limiting audits using convex optimization. In D. Jones, J. J. Quisquater, and E. Rescorla, eds., *Proceedings of EVT/WOTE 2010*. USENIX/ACCURATE/IAVoSS, Aug. 2010.

K. Koscher, A. Czeskis, F. Roesner, S. Patel, T. Kohno, S. Checkoway, D. McCoy, B. Kantor, D. Anderson, H. Shacham, and S. Savage. Experimental security analysis of a modern automobile. In D. Evans and G. Vigna, eds., *Proceedings*

of *IEEE Security and Privacy* ("Oakland") 2010, pp. 447–462. IEEE Computer Society, May 2010.

S. Checkoway, H. Shacham, and E. Rescorla. Are text-only data formats safe? Or, use this L^AT_EX class file to pwn your computer. In M. Bailey, ed., *Proceedings of LEET 2010*. USENIX, Apr. 2010.

S. Checkoway, A. J. Feldman, B. Kantor, J. A. Halderman, E. W. Felten, and H. Shacham. Can DREs provide long-lasting security? The case of return-oriented programming and the avc advantage. In D. Jefferson, J. L. Hall, and T. Moran, eds., *Proceedings of EVT/WOTE 2009*. USENIX/ACCURATE/IAVoSS, Aug. 2009.

W. Zhang, S. Checkoway, B. Calder, and D. M. Tullsen. Dynamic code value specialization using the trace cache fill unit. In K. Rudd and C. Pixley, eds., *Proceedings of ICCD 2006*, pp. 10–16. IEEE Computer Society, Oct. 2006.

Reports

A. Sarwate, S. Checkoway, and H. Shacham. Which alternatives to plurality voting can be audited efficiently? Technical Report CS2011-0967, UC San Diego, June 2011.

S. Checkoway and H. Shacham. Escape from return-oriented programming: Return-oriented programming without returns (on the x86). Technical Report CS2010-0954, UC San Diego, Feb. 2010.

S. Checkoway. Methods of post-election confidence-level auditing. Online: <https://cs.ucsd.edu/~scheckow/papers/re.html>, Sept. 2008.

Articles

S. Checkoway, H. Shacham, and E. Rescorla. Don't take L^AT_EX files from strangers. ;login: *The USENIX Magazine*, 35(4):17–22, Aug. 2010.

Invited Talks

10/2011

Comprehensive security analyses of a modern automobile. Workshop on Embedded Systems Security (WESS'11) keynote.

Professional Activities

DIMVA 2012 program committee member.

EVT/WOTE 2011 program committee member.

WOOT 2011 program committee member.

Invited Lectures

11/2011

Experimental Security Analysis of a Modern Automobile. Part of UCSD's CSE 118, *Ubiquitous Computing*, taught by Lisa Cowan.

- 7/2011 *Introduction to Security.* A technical introduction to several aspects of adversarial thinking including buffer overflows and exploiting TOCTTOU errors. Part of UCSD's CSE 120, *Operating Systems*, taught by Cynthia Taylor.
- 4/2010 *Buffer Overflows.* A lecture showing how to perform a buffer overflow on the stack, focusing on using gdb and helper exploit programs to find return addresses in the target program and debugging the exploit. Part of UCSD's CSE 127, *Computer Security*, taught by Hovav Shacham.
- 2/2010 *The Security Mindset.* An introductory lecture describing computer science and beyond with a security mindset. Part of UCSD's CSE 91 *Perspectives in Computer Science*, taught by George Varghese.

Teaching Assistant

- Summer 2008 CSE 130: Programming Languages
Course Web: <http://www-cse.ucsd.edu/classes/su08/cse130/>
- CSE 21: Mathematics for Algorithm and System Analysis
Course Web: <http://www-cse.ucsd.edu/classes/su08/cse21/>
- Spring 2008 CSE 105: Introduction to the Theory of Computation
Course Web: <http://www-cse.ucsd.edu/classes/sp08/cse105/>
- Winter 2008 CSE 105: Introduction to the Theory of Computation
Course Web: <http://www-cse.ucsd.edu/classes/wi08/cse105/>
- Fall 2007 CSE 20: Discrete Mathematics
- Summer 2007 CSE 100: Advanced Data Structures
Course Web: <http://www-cse.ucsd.edu/classes/su07/cse100/>
- CSE 130: Programming Languages
Course Web: <http://www-cse.ucsd.edu/classes/su07/cse130/>
- CSE 141: Computer Architecture
Course Web: <http://www-cse.ucsd.edu/classes/su07/cse141/>
- Spring 2007 CSE 20: Discrete Mathematics
Course Web: <http://www-cse.ucsd.edu/classes/sp07/cse20/>
- Winter 2007 CSE 105: Introduction to the Theory of Computation
Course Web: <http://www-cse.ucsd.edu/classes/wi07/cse105/>
- Fall 2006 CSE 8A: Introduction to Computer Science with Java
- Summer 2006 CSE 141: Introduction to Computer Architecture
Course Web: <http://www-cse.ucsd.edu/classes/sp06/cse141/>
- CSE 141L: Project in Computer Architecture
Course Web: <http://www-cse.ucsd.edu/classes/sp06/cse141L/>
- CSE 20: Discrete Mathematics
Course Web: <http://www-cse.ucsd.edu/classes/su06/cse20/>

Spring 2005 (UW) CSE 378: Machine Organization and Assembly Language
Course Web: <http://cs.washington.edu/education/courses/378/05sp/>

Winter 2005 (UW) CSE 373: Data Structures and Algorithms
Course Web: <http://cs.washington.edu/education/courses/373/05wi/>

Fall 2004 (UW) CSE 378: Machine Organization and Assembly Language
Course Web: <http://cs.washington.edu/education/courses/378/04au/>

References

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