Shuo Tang

CONTACT INFORMATION

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RESEARCH INTERESTS

My research focuses on operating systems and web browsers

EDUCATION

University of Illinois, Urbana-Champaign, Urbana, IL USA — Aug. 2007 - present

Ph.D. Candidate, Computer Science (**expected May 2011**)
Advisor: Prof. Sam King

Tsinghua University, Beijing, China P.R. — Aug. 2001 - Jul. 2007

M.Eng., Computer Science, Jul. 2007
B.Eng., Computer Science, Jul. 2005

PUBLICATIONS

Journal

Chris Grier, Shuo Tang, and Samuel T. King, *"Designing and implementing the OP and OP2 web browsers"*, to appear in ACM Transactions on the Web (TWEB), (Fast track journal invitation).

Conference

Shuo Tang, Haohui Mai and Samuel T. King, *"Trust and Protection in the Illinois Browser Operating System"*, to appear in Proceedings of 9th Symposium on Operating Systems Design and Implementation (OSDI), Vancouver, BC, Canada, October 2010.

Shuo Tang, Chris Grier, Onur Aciicmez and Samuel T. King, *"Alhambra: A system for creating, enforcing and testing browser security policies"*, Proceedings of 19th International Word Wide Web Conference (WWW), Raleigh, NC, April 2010.

Chris Grier, Shuo Tang and Samuel T. King, *"Secure web browsing with the OP web browser"*, Proceedings of the 2008 IEEE Symposium on Security and Privacy (Oakland), May 2008.

Shuo Tang, Yu Chen and Zheng Zhang, *"Machine Bank: Own Your Virtual Personal Computer"*, Proceedings of the 21st IEEE International Parallel and Distributed Processing Symposium (IPDPS), Long Beach, CA, March 2007.

Other

Chris Grier, Shuo Tang and Samuel T. King, *"Building a More Secure Web Browser"*, ;login: The USENIX Magazine, Vol. 33 Number 4, August 2008

EXPERIENCES

University of Illinois at Urbana-Champaign, IL, Research Assistant, Sep. 2007 - Present

- *Browser OS*: Our group designed and implemented a new operating system from scratch to make the most important application - the web browser - as secure as possible. My work included: (1) designing the architecture and abstraction of the new OS and implementing most of the kernel; (2) porting Qt framework and WebKit to the new OS; (3) implementing all the browser components; (4) making some of the device drivers fit into our secure architecture.
- *Secure web browser*: Our group developed the OP web browser that tries address the shortcomings of current web browsers to enable secure web browsing. My work included: (1) formally verifying

several security properties in the OP web browser; (2) designing and developing the open source version of the OP web browser.

Facebook, Palo Alto, CA, Intern, Jun. 2010 - Aug. 2010

- *CSS analyzer tool*: I developed a client-side CSS analyzer tool to provide CSS file organization suggestion for Facebook front-end.

Samsung Advanced Institute of Technology, San Jose, CA, Intern, May. 2009 - Aug. 2009

- *Web security*: I developed a taint-tracking engine in a WebKit-based browser, and used the taint-tracking capability to detect and prevent DOM-based cross site scripting(XSS) vulnerabilities in web applications.

Microsoft Research Asia, Beijing, China P.R., Parttime Intern, Jul. 2004 - Dec. 2006

- *Distributed systems debugging*: Our group developed WiDS Checker, a unified framework that can check invariants in distributed systems. My work included optimizing the runtime of the framework and carrying out experiments.
- *Virtual machine migration*: I designed and implemented a system called *Machine Bank* which utilized Microsoft Virtual PC to enable preserving personal working environment across machines in corporation network. Demo of the prototype was shown in Microsoft Tech-Festival 2005

Teaching Experiences

Teaching Assistant

- *CS101 Introduction to Computing*, University of Illinois, Urbana-Champaign, Spring 2008
- *CS423 Operating Systems Design*, University of Illinois, Urbana-Champaign, Fall 2007
- *Compiler*, Tsinghua University, Beijing, Spring 2005
- *Computer Science: an Overview*, Tsinghua University, Beijing, Fall 2004

Patents

US Patent pending: Marking documents with executable text for processing by computing systems (12/693,168)
US Patent pending: Safely processing and presenting documents with executable text (12/693,152)

Programming Skills

C/C++ (Preferable), Java
Python, SQL, Bash
Maude (a formal verification tool)

Professional Services

External reviewer for USENIX ATC, USENIX Security, VEE and WWW.