Dongseok(Don) Jang

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Education

University of California, San Diego, La Jolla, CA — Aug 2014 (Expected)
Ph.D., Computer Science (GPA: 4.0/4.0), Advisor: Sorin Lerner
Thesis: "Language-based Security for Web Browsers"

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea
M.S., Computer Science (GPA: 3.9/4.3), Mar 2009, Advisor: Kwang-Moo Choe
Thesis: "Pointer Analysis for JavaScript"

Experience

Google — Software Engineering Intern @ Chrome Security Team
Seattle, WA — Summer 2013
Implemented a security module that blocks illegal cross-site access from HTML renderer processes in Chrome; conducted a thorough evaluation of the module to measure its effectiveness over Chrome's beta testers; deployed the module in the Chrome browser.

Mozilla Corporation — Research Intern @ Mozilla Labs
Mountain View, CA — Summer 2011
Prototyped a JIT-enabled taint tracking engine for JavaScript built on Firefox's JS engine; being recommended for a scholarship opportunity by Mozilla with the success of the intern project.

University of California, San Diego — Teaching Assistant
La Jolla, CA — Winter 2012, Spring 2013, Fall 2013
Designed and taught weekly recitation sessions for introducing OCaml, Python, and Prolog to undergraduate students taking Programming Languages (CSE130); Supervised more than 100 students.

Publications (Selected)

SafeDispatch: Securing C++ Virtual Calls from Memory Corruption Attacks
Dongseok Jang, Zachary Tatlock, Sorin Lerner. NDSS 2014
Developed an extended C++ compiler that secures virtual function calls via code instrumentation; developed a modified Clang++ compiler for code instrumentation and LLVM passes for optimizing instrumented code.

Establishing Browser Security Guarantees through Formal Shim Verification
Dongseok Jang, Zachary Tatlock, Sorin Lerner. USENIX Security 2012
Developed Quark, a multi-process web browser with a browser kernel formally verified to be tamper-proof; built a full-fledged research browser based on existing components that actually works on real websites including GMail, Google Maps, and Facebook.

An Empirical Study of Privacy-Violating Information Flows in JavaScript Web Applications
Dongseok Jang, Ranjit Jhala, Sorin Lerner, Hovav Shacham. CCS 2010
Found real cases of JavaScript history sniffing attack on 46 popular websites; authored a paper on the findings which was covered in major newspapers including Forbes, The Wall Street Journal, Slashdot, etc.; Implemented a security enhanced JavaScript engine that detects information theft using taint tracking.

Technical Skills

C, C++, Python, JavaScript, Java, OCaml, Compilers, Web Browser Security

Additional Information

Visa Status : F1 (Student)
Country of Citizenship : South Korea
Languages Proficiency : Korean (Native), English (Fluent)