

Salvatore Guarnieri

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Education

The University of Washington : September 2006 - June 2010

Degree Masters of Science in Computer Science

Location Seattle, WA

Area of Research Program Analysis for Web Languages

The University of Virginia : September 2002 - May 2006

Degree Bachelor of Science

Location Charlottesville, VA

Major Computer Science (Computer Graphics and Computer Security concentration)

Minor Biomedical Engineering

Work Experience

Google : September 2014 - Current

Location New York, NY, Seattle, WA

Title Software Engineer

Summary Kythe - I worked on supporting cross-references in mobile related code (added support for Objective-C and infrastructure support for Android and iOS projects). I also helped maintain the project internally.

Android Studio - I worked on the Bazel plugin for Android Studio. I was one of the early developers that helped bridge the Bazel project model and the IntelliJ project model to make the plugin possible.

IBM : January 2011 - August 2014

Location Hawthorne, NY

Title Software Engineer

Summary Worked on analyses targeted at improving mobile application development. Specifically, worked on analyses for JavaScript, Android (Java), and Java to detect security and reliability problems. Was technical lead for JavaScript analyses.

Primary Language Used Java

IBM Research : June 2010 - January 2011

Location Hawthorne, NY

Title Intern, worked with Marco Pistoia

Summary I worked on precise JavaScript and Java analyses. During the course of the internship I developed several analyses to detect or prevent security problems in several web languages. One of the analyses I developed was Actarus, which was a precise tainting analysis for JavaScript.

Primary Language Used Java

Microsoft Research : October 2008 - February 2009

Location Redmond, WA

Title Intern, worked with Ben Livshits

Summary I developed Gatekeeper, a tool that statically analyzes JavaScript widgets to identify possible security or reliability problems. The tool was aimed at widgets that were present on the live.com web portal. Gatekeeper was designed to execute on a widget after it was submitted but before the widget was listed in a directory of available widgets. Gatekeeper was designed to ensure unreliable widgets would not make it to the directory of downloadable widgets. I was responsible for creating, testing, and improving the tool. I was also partially responsible for the tool's technical report and presentation at meetings and talks.

Primary Language Used C#

Selected Publications

Andromeda: Accurate and Scalable Security Analysis of Web Applications

Omer Tripp, Marco Pistoia, Patrick Cousot, Radhia Cousot, Salvatore Guarnieri
FASE 2013

Saving the World Wide Web from Vulnerable JavaScript

Salvatore Guarnieri, Marco Pistoia, Omer Tripp, Julian Dolby, Stephen Teilhet, Ryan Berg
ISSTA 2011

Gatekeeper: Mostly Static Enforcement of Security and Reliability Policies for JavaScript Code

Salvatore Guarnieri, Ben Livshits.
USENIX Security 2009

Automatically Hardening Web Applications Using Precise Tainting

Anh Nguyen-Tuong, Salvatore Guarnieri, Doug Greene, Jeffrey Shirley and David Evans.
IFIP International Information Security Conference 2005