DAVID SOLODUKHIN

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EDUCATION

Georgia Institute of Technology - Atlanta, GA **Graduating Dec 2019**
Candidate for B.S. in Computer Science
GPA: 3.96/4.0

EXPERIENCE

Prudential Financial – Newark, NJ **May 2018 – Present**
Software Engineer Intern, Enterprise Services & Systems

- Developed features for an internal Table Management System web application utilizing Struts2 MVC (Java backend) and JSP UI views.
- Wrote multi-module Maven build scripts to automate building of Oracle ADF applications.
- Migrated several internal web tools from Struts2 to Spring Web; also migrated and redeployed applications from Oracle Weblogic to JBoss Wildfly servers.

Institute for Information Security & Privacy @ Georgia Tech **October 2017 – February 2018**
Undergraduate Researcher

- Designed and evaluated new anti-fuzzing techniques to slow down modern fuzzers and protect software from malicious fuzzing.
- Wrote LLVM passes in **C++** to implement anti-fuzzing techniques in existing Linux executables.
- Wrote **Python** scripts to automate unit testing and plot fuzzing statistics.
- Revised and edited final paper which was submitted to USENIX and Black Hat.

Advise Technologies – New York City, NY **June 2016 – August 2016**
Software Engineer Intern, CI and QA Team

- Designed and maintained a continuous integration system for the development team that automatically pulled code from repositories, compiled the software, ran regression and unit tests and emailed results to team leads.
- Designed **Java** plugins for TeamCity CI server which added automation functionality such as email alerts and detailed logging.
- Scripted custom regression tests in Jscript using the TestComplete testing suite.

PROJECTS

- **Linux Kernel Modules/Modifications** (kernel v4.15.18): created UDP server process within kernel running custom protocol for delivering operating system statistics as well as data offloading (on page fault, remap page from udp request). Developed Kernel Module for IPC between kernel threads and user threads using proc filesystem. Implemented Kernel Module for network traffic artificial throttling and proxy system.
- **MIT Xv6 Operating System** – contributed to O.S. development including kernel and user stack ASLR, base Inter-process communication system, hybrid scheduler, as well as deterministic multi-threaded unit tests for these additions.
- **HgDocs** – collaborative document editor written in JavaScript using Node.js middleware. It supported up to 10 people simultaneously editing a document. Used MySQL server database for document persistent state storage.
- **Foxmembeta.cf** – math tutorial website written in javascript and HTML which utilized third party API to give users access to tools to solve math equations step-by-step. Website received 100k hits in first 2 days.
- **Olive Engine** – Networked Multiplayer Game written in JAVA using AWT and Java web sockets. Designed a protocol to add reliable data transfer, latency synchronization as well as forward error correction to UDP.

SKILLS

Languages: Java, C, C++, Javascript, Python
Testing Suites: Selenium, TeamCity, TestComplete, AFL, hongfuzz, Wireshark, Burp Suite
Database: MySQL, Firebase
Skills: Node.js, Socket.io, JQuery, Android SDK, LWJGL, LLVM(Clang), git, mercurial, pvcs, JSP, Oracle Weblogic, struts2, Spring Web, Network & Computer Architecture/Organization, Exploit Development, Reverse Engineering, O.S. and microkernel development, x86/64 ISA, EAR/WAR, JDBC, Reactjs, jQuery, Maven, Gradle
Foreign Language: Russian; Native Fluency

LEADERSHIP

Grey Hat Security, Linux Users Group
Phi Kappa Theta, Gamma Tau Chapter – I.T. Chair
Yellow Jacket Competitive Fencing Team