David Solodukhin

+1914-564-8872 | david.solodukhin@gmail.com

EXPERIENCE

Meta (Facebook) – Menlo Park, CA **July 2020 – Present**

Production Engineer – Network Infrastructure Security Engineering

- Developing and scaling DDoS detection and mitigation systems spanning transport to application specific network layers, aggregating traffic data across millions of physical hosts. Helping implement reliable detection methods and investigating metrics which aid in classifying network anomalies as attacks or network issues.

Amazon Lab126 – Sunnyvale, CA **Sept – Nov 2019**

Software Development Engineer Intern – Consumer Devices

- Designed a high performance, adaptive and portable service to stream and transcode sensor data from a prototype consumer electronic device. This service allowed developers to more quickly diagnose low-level sensor issues and decreased reliance on device storage for storing debugging information.

VMware – Palo Alto, CA **May – Aug 2019**

Software Engineer Intern – VM Platform

- Designed and built a scalable, container-runtime independent solution for managing containers running in a Linux virtual machine. This solution efficiently gathers container stats/info by communicating directly with the exposed Linux kernel APIs which make containerization feasible.

Prudential Financial – Newark, NJ **May – Aug 2018**

Software Engineer Intern, Enterprise Services & Systems

- Improved reliability and efficiency of internal metadata management system, significantly reducing query response latency. Expanded on the existing frontend (JSP) and rewrote Struts2 functionality in Spring(Web).
- Reduced daily build time of this system by several hours with multi-module Maven build scripts that automate building Oracle ADF applications.

Georgia Tech Database Research Group – Atlanta, GA **Feb – May 2019**

Undergraduate Researcher – Dr. Joy Arulraj – Accelerating Data Analytics using Logical Zone Maps

- Aided in designing new logical indexing structures used for caching statistical aggregates for subsets of data. Implemented mock dbms components such as a mixture model engine which would evaluate new indexing techniques as well as support approximate query processing.

College of Computing – Atlanta, GA **Jan – May 2019**

Undergraduate Teaching Assistant – Design and Analysis of Operating Systems

- Taught students operating systems concepts and kernel programming. Graded and maintained assignments.

Institute for Information Security and Privacy – Atlanta, GA **Oct 2017 – Oct 2018**

Undergraduate Researcher – Dr. Taesoo Kim – Fuzzification: Anti-Fuzzing Techniques

- Designed and evaluated 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.
- Automated source-code instrumentation, unit testing of anti-fuzzing methods and visualization of fuzzing stats.

PROJECTS; PUBLICATIONS

- Jinho Jung, Hong Hu, **David Solodukhin**, Daniel Pagan, Kyu Hyung Lee, and Taesoo Kim. **Fuzzification: Anti-Fuzzing Techniques**. *In Proceedings of the 28th USENIX Security Symposium (Security 2019)*, Santa Clara, CA, August 2019.
- **Linux Kernel Modules** (kernel v4.15.18): Developed a module which starts a kernel daemon for transmitting O.S. stats. Implemented a kernel module for network traffic artificial throttling and proxy.
- **Wolfram Alpha Bug:** Found SSRF vulnerability in Wolfram Alpha's api giving access to premium features for free. Contacted WA team and exploit was patched.

EDUCATION

Georgia Institute of Technology - Atlanta, GA **Aug 2016 – May 2020**

B.S. in Computer Science

SKILLS

Languages: C++, C, Python, Java, Golang, (PL)SQL, Javascript, x86/64 ISA (GAS, FASM)
Systems, Technologies/Tools: LLVM, OpenMP, MPI, Docker, Kubernetes, libcontainer, KVM/QEMU, libvirt, Android SDK/NDK, Git, Reverse Engineering, fuzzing, SDDC, HCI, AWS:LightSail/EC2, Virtualization
Foreign Language: Russian; Native Fluency