

# David Solodukhin

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

## EXPERIENCE

**Meta (Facebook) – Menlo Park, CA**

**July 2020 – Present**

***Production Engineer – Network Infrastructure Security Engineering***

1. Edge network security: keeping public facing infrastructure safe and reliable. Focusing on developing and scaling L4-7 DDoS detection and mitigation systems. Implementing & improving methods for detecting & classifying network anomalies. Also working on Linux host level security features utilizing eBPF, spanning millions of machines.

**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, Git, Reverse Engineering, fuzzing, SDDC, HCI, AWS:LightSail/EC2, Virtualization, eBPF, XDP

**Foreign Language:** Russian; Native Fluency