

Miriam Zimmerman

miriam@mutexlox.com

www.linkedin.com/in/miriam-zimmerman-9a2507117

<https://mutexlox.com>

Boston, Massachusetts

Summary

Senior software engineer with extensive experience in C++, C, and Python and strong experience with Go and Rust, and experience as a technical lead for small teams of engineers. Skilled at taking a problem from problem statement to design to implementation, even when design and implementation can span years and take multiple engineers.

Experience

Google: Senior Software Engineer, ChromeOS Telemetry 2022 – current

- Tech Lead for ChromeOS A/B Experimentation, taking ownership of testing improvements, providing technical guidance for formal process documents, and working with managers and other engineers to coordinate priorities and track project timelines.
- Leading implementation for a multi-year, multi-engineer project that enables early-boot A/B experimentation for platform code:
 - Conduct client outreach with project manager to ensure design meets user needs.
 - Project expected to unblock 5+ teams, allowing safer, more data-driven decisions org-wide, e.g. better analysis of performance impacts of memory management changes.
- Mentor junior engineers to help them improve their skills, delegating well-scoped work to them and providing appropriate guidance, including by writing detailed design documents for broadly scoped problems that break down the problems into suitable pieces.
- Review roughly 10 code changes per week, unblocking numerous clients and ensuring that they launch experiments safely without regressing key “guardrail” metrics.
- Awards: Silver Q3 2023 company-wide Healthy award, Q4 2023 honorable mention for ChromeOS Execution Excellence Emmy, and 15 peer and spot bonuses since late 2022.

Google: Software Engineer, ChromeOS Telemetry 2018 – 2022

- Designed, planned, and assigned work for early-boot A/B experimentation, ensuring safe, automated disaster recovery.
- Designed and implemented late-boot platform A/B experimentation, working with clients to assess requirements. Used by dozens of experiments, enabling safer, more data-driven platform changes.
- Established integration tests for crash reporter, eliminating many bugs and preventing large classes of regressions.
- Implemented actionable alerts to enable dozens of teams to easily track specific crash types over time and increase their awareness of new ones.
- Improved reliability of crash reporter by adding metrics, fixing bugs, and reducing server load that was causing high-severity crashes to be lost.

Google: Software Engineer, Cloud Security 2015 – 2018

- Exceeded key enterprise customer requirements by implementing a virtual Trusted Platform Module, enabling key secure boot workflows for all customers of Google Cloud.
- Increased difficulty for attackers that escape a VM to move laterally to other machines, improving Google’s security posture against malicious actors.
- Evaluated several options for detecting Spectre and Meltdown attacks, including their false positive and negative rates, and produced a report on detection options.
- Designed, implemented, and evaluated methods of using x86 performance counters to detect specific malicious behavior patterns, culminating in a well-researched request to Intel for

CPU behavior changes that were eventually implemented and released in future hardware generations.

- Automated testing for an experimental Type-I hypervisor used for secure cloud computing, reducing time to test from 30 minutes to 5.
- Collaborated with a Cloud Security director to finalize an inclusion plan that I wrote for the organization.

Volunteer Teacher, Advanced Placement CS A, Kelso High School 2017 – 2021

- Co-taught an AP CS class to high school students in an underfunded public school, as part of Microsoft's Technology Education and Learning Support program.
- Trained the professional classroom teacher until she was comfortable teaching the class on her own, establishing a sustainable CS curriculum there.

Education

Carnegie Mellon University, School of Computer Science 2015
B.S. in Computer Science with University Honors

Languages

C++, C, Python, Go, bash, Rust, x86 assembly, Java, SQL, JavaScript, SML

Tools

vim, gdb, bazel, googletest, Abseil C++ libs, protobuf, git, Mercurial, svn, Eclipse