

Miriam Zimmerman

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Experience	Google: Software Engineer , Chrome OS <ul style="list-style-type: none">• Ported legacy interrupt-handling devices from kernel to userspace (in Rust)• Audited significant portions of feedback report data for sensitive information	Sep 2018 –
	Google: Software Engineer , Google Cloud Security <ul style="list-style-type: none">• Worked on Trusted Platform Module code and related software:<ul style="list-style-type: none">– Found bugs in Linux TPM driver; wrote and upstreamed fixes– Wrote code to generate Endorsement Key certificates– Implemented TPM register interface to public specification– Dramatically increased test coverage and added automated fuzzing• Substantially increased difficulty for an attacker that manages to break out of a virtual machine to move laterally to other production machines.• Evaluated several options for detecting the Spectre and Meltdown vulnerabilities using Intel hardware performance counters:<ul style="list-style-type: none">– Reviewed research on side-channel cache attack detection– Proposed detection methods– Measured false positive/negative rates for proposed schemes– Wrote a widely-read internal report on detection options• Designed, implemented, and evaluated several hardware performance counter options to detect specific malicious behavior on GCE.• Worked on implementation and test infrastructure for a minimal Type-I hypervisor. Automated test process and reduced time to run tests from roughly 30 minutes to roughly 5.• Developed a plan to improve inclusiveness in the Cloud Security organization as it grows, shared it with the directors of the org, and met with one of them to discuss it in depth and further develop it.	2015 – 2018
	TEALS: Volunteer Teacher <ul style="list-style-type: none">• Began as a volunteer TA; took on teacher role when need arose• Make and deliver lectures on Advanced Placement CS topics	2017–
	Google: Internships <ul style="list-style-type: none">• Worked on hardware key storage support for end-to-end• Participated in a successful penetration testing exercise• Improved reliability of a program that garbage collects old files	Summer 2013, 2014
	Khan Academy: Software Engineering Intern <ul style="list-style-type: none">• Simplified A/B testing for changes in certain key metrics• Wrote a script to monitor rate of bug reports (git.io/dweXRw)	Summer 2012
Education	Carnegie Mellon University , School of Computer Science B.S. in Computer Science with University Honors (GPA: 3.82)	May 2015
Languages	C++, C, Python, bash, x86 assembly, Java, SML, \LaTeX , JavaScript	
Tools	vim, bazel, googletest, Abseil C++ libs, protobuf, git, Mercurial, svn, Eclipse	