Aaron Shim

aaron.k.shim@gmail.com | (203) 745-7089 | aaronshim.github.io | linkedin.com/in/aaron-shim

Summary

Passionate about democratizing secure software development by building tools and methodologies that make the right way the easy way for all developers—human and AI alike.

Experience

Software Engineer (Information Security Engineering), Google – New York, NY Jan 2020 – present

- Led Trusted Types rollout across Google's web ecosystem of 600+ domains and 900+ applications serving 1 trillion+ requests, re-architecting core frameworks to eliminate DOM Cross-Site Scripting (XSS)—part of the XSS class that comprised **50%+ of reported web vulnerabilities**—from applications with enforcement enabled
- Identified opportunity to scale Google's security innovations to Angular ecosystem, leading the partnership and implementing custom HTML parser that ships auto-generated Content Security Policy defenses in Angular v19 to **3M+ weekly downloads**, establishing new industry security standard
- Drove industry-wide web security guidance as Google's representative to W3C Secure Web Application Guidelines Community Group, translating Google-scale security methodologies into best practices adopted across the web
- Formulated open-source strategy to externalize battle-tested security frameworks through tooling, documentation, and advocacy, enabling secure-by-default development for millions of developers beyond Google (blogpost)
- Founded and scaled team's external engagement program, mentoring **4 first-time blogpost authors** to publish technical content and **5 first-time speakers** to deliver conference talks at security and developer venues, transforming internal expertise into industry thought leadership that drives secure-by-default adoption

Software Engineer (Google Cloud Platform & Workspace), Google – New York, NY Dec 2017 – Jan 2020

- Launched Access Transparency for Google Workspace, delivering enterprise data access visibility while owning product quality metrics critical to launch readiness, protecting billions of users
- Deployed Strict Content Security Policy across Workspace products and designed validation framework spanning dozens of products, mitigating XSS vectors and preventing critical production failures
- Led security reviews, threat modeling, and multi-team incident response for new features across Workspace and Cloud products, while guiding intern's end-to-end delivery of customer-facing UI feature from design to production

Software Development Engineer (DevDiv), Microsoft – Redmond, WA, USA Sept 2016 – Dec 2017

- Developed features for the new visual debugger in Visual Studio 2017 for Universal Windows Platform apps

Talks

Securing Frontends at Scale: Paving our Way to the Post XSS World Aug 2024

Safe Coding principles for secure-by-default JavaScript/TypeScript development at Google scale, preventing XSS through API design that makes security the path of least resistance

AppSec Village @ DEFCON33 (2024), BSides Seattle (2025), BSidesLV (2025)

Trusted Types: DOM XSS at Scale July 2023

Trusted Types adoption strategies for eliminating DOM XSS as an entire vulnerability class, with deployment lessons from hundreds of production applications serving billions of users

LeHack (2023), LibertyJS (2023), Frontrunners DC (2024)

Skills

Programming Languages: Proficient with JS/TS, Java, Ruby, SQL; working knowledge of Python, Rust, Haskell, C#

Education

Yale University, BS in Computer Science and Mathematics – New Haven, CT, USA 2012 – 2016