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Aaron Shim

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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, USA Jan 2020 – present

- 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
- Led the rollout of Trusted Types across Google, re-architecting and overhauling internal frameworks and NPM libraries to scale to thousands of applications, verifiably eliminating DOM Cross-Site Scripting (XSS) vulnerabilities
- 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)
- Built strategic partnerships with framework teams, including implementing custom HTML parser and transformation layer in Angular's build pipeline to ship auto-generated Content Security Policy defenses in Angular v19
- Established team's thought leadership program by mentoring colleagues to publish technical blogposts and deliver conference talks at security and developer venues, bridging siloed communities to drive secure-by-default adoption

Software Engineer (Google Cloud Platform), Google – New York, NY, USA Nov 2018 – Jan 2020

- Launched Access Transparency for Google Workspace, delivering visibility into administrative data access for enterprise customers while owning product quality metrics critical to launch readiness and customer trust
- Designed and implemented end-to-end validation framework spanning tens of products, then led multi-team incident response when framework detected critical production failure, preventing customer impact
- Mentored intern through design and implementation of customer-facing audit log improvements

Software Engineer (Google Workspace), Google – New York, NY, USA Dec 2017 – Nov 2018

- Deployed Strict Content Security Policy across flagship Google Workspace products, mitigating critical XSS attack vectors and protecting billions of users from client-side injection vulnerabilities
- Led security reviews and threat modeling for new Workspace features, identifying critical vulnerabilities pre-launch and designing mitigation strategies that prevented security incidents in 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 & Publications

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