Andrew Liu

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Professional Experience

GOOGLE Senior Software Engineer — Jul 2024 – Present

- Coauthored the Bounce Tracking Mitigations web platform specification and implemented Chrome protections against covert cross-site tracking through redirect chains.
- Extended Chrome's vulnerability-scanning infrastructure with Objective-C support, bringing automated security analysis to Chromium's iOS codebase.

STAIRWELL Software Engineer — Nov 2020 – Jun 2024

- Designed and scaled Stairwell's core query engine, indexing and serving data across billions of unique files.
- Built a production-testing framework that generated synthetic browser traffic, enabling engineers to validate system behavior under realistic workloads.

SCALE AI Software Engineer — Jul 2019 – Oct 2020

- Founded Scale AI's machine-learning infrastructure team and built a self-service application that enabled non-engineers to retrain models with configurable hyperparameters.
- Built a pipeline that pre-labeled images using model predictions, reducing human annotation time by 30%.
- Prototyped and launched new product lines, including a data curation platform serving millions of images from open-source datasets.

GOOGLE Software Engineer — Aug 2017 – Jul 2019

- Implemented reauthentication checks across critical Google Account security flows, protecting against more than 400 potentially malicious requests per second.
- Integrated Google Prompt into the Gmail iOS app, tripling iOS 2FA coverage to 140 million users.
- Designed and launched experiments across Google sign-in flows, increasing Google Prompt pass rates by 10% and overall login success by 5%.
- Open-sourced Google Authenticator for Android and migrated its build system to Bazel.

Earlier Experience

DROPBOX Software Engineering Intern — 2016

- Profiled and optimized Dropbox's server performance, reducing homepage load time by 33%.

GOOGLE Software Engineering Intern — 2015

- Built an open-source exploitability analyzer for detecting buffer overflows and executable stacks in crashed binaries; it was adopted for automated crash triage across Google Compute Engine.

Education and Research

UNIVERSITY OF MARYLAND, COLLEGE PARK — 2013 – 2017

- B.S. in Computer Science, minor in Statistics
- Graduated magna cum laude (GPA: 3.97/4.0)

USENIX SECURITY — 2015

- Coauthored "De-anonymizing Programmers via Code Stylometry" while at the US Army Research Laboratory.