Sam Flattery

Software Engineer

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Work Experience

Google
Sunnyvale, CA

Software Engineer III (L4)
Oct 2023 - Present

- Reduced damage caused by made-for-abuse accounts by XX% across Google by challenging potentially abusive users with anti-abuse challenges when trying to access non-essential Google services
- Designed and implemented the challenge policies in Java with configurable arms to rapidly react to changes in abuse
- Created the frontend and backend of the UX flow seen by XXXk users a day telling them why they are restricted, allowing them to pass challenges, and eventually unrestricting them after passing
- Developed monitoring dashboards, real time metrics, and SQL queries to analyse the impact of the rollout and detect issues

Google
Sunnyvale, CA

Software Engineer II (L3)
Sep 2022 - Oct 2023

- Worked on the Action Protection team, responsible for protecting sensitive actions like password changes against hijacking with a risk-based system to challenge users with 2FA challenges
- Overhauled the UX flow shown to non-2FA users to allow them to seamlessly enroll and proceed with the attempted action, unblocking XXk daily
- Engaged with clients like Gmail, Payments and Ads to offer design reviews, integration support and land feature requests

Google
Ireland (Remote)

Software Engineering Intern
May 2021 - Aug 2021

- Worked on the SafetyNet Attestation API, an anti-abuse platform written in C++ which assesses device side integrity on Android devices
- Designed and implemented a principled way to process device information and produce a new integrity verdict for a new class of device
- Extended the system that calculates preexisting integrity verdicts to make it more configurable, scalable and easier to debug
- This new system is on the critical path to assessing over 1 billion devices daily

Google
Ireland (Remote)

Software Engineering Intern
May 2020 - Aug 2020

- Created a testing system in C++ for exercising code paths in Envoy, an open source L7 proxy, with randomized inputs
- Implemented an abstract state tracker that maintained the correct state of the system to ensure updates were properly processed
- Fixed two logical bugs in Envoy's implementation found through this testing method
- Increased testing coverage over key files by more than 40%

Education

Carnegie Mellon University
Pittsburgh, PA

B.S. in Computer Science, Concentration in Computer Systems
Aug 2018 - May 2022

- Cum. GPA: **3.91 / 4.00** (Dean's List, High Honors F18, S19, F20, S21, S22)
- Selected courses:

15-410 Operating Systems
15-440 Distributed Systems
15-418 Parallel Computer Architecture
15-451 Algorithm Design & Analysis
15-281 Artificial Intelligence
15-445 Database Systems

Projects

The Atlas Project
Pittsburgh, PA

Software Lead
Aug 2019 - May 2021

- Managed the software team developing a fully autonomous gravity-powered vehicle
- Presented weekly briefings on software progress to the organization and assigned tasks to team members
- Integrated deep learning semantic segmentation into the vehicle's control mechanism

Skills

- **Programming Languages:** Java, C++, C, Python, Swift, SQL