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 20% 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

FEBRUARY 10, 2024   SAM FLATTERY · RÉSUMÉ