

# Sam FLATTERY

## Software Engineer

@ samflattery@gmail.com 📞 412-419-4127

🐙 github.com/samflattery 🌐 linkedin.com/in/sam-flattery123

## 🎓 EDUCATION

### CARNEGIE MELLON UNIVERSITY

MAY 2022

#### Bachelor of Science in Computer Science

- Concentration in Computer Systems
- GPA : 3.89 / 4.00 (Dean's List : F '18, S '19, S '20)

## 👜 EXPERIENCE

### SOFTWARE ENGINEERING INTERN

JUNE 2020 - AUG 2020

#### GOOGLE (REMOTE)

- Worked with the security team to find bugs in Envoy, an open source L7 proxy, through randomized fuzz testing
- Wrote a fuzz target for Envoy's xDS protocol, which provides a centralized infrastructure for distributing configuration files to Envoy nodes
- Implemented an abstract state tracker that maintained the correct state of the nodes to verify that updates to the configurations were properly processed after executing the fuzzed input
- Increased fuzz coverage over key files by more than 40%
- Fixed two logical bugs in Envoy's implementation of xDS found by my fuzzer

C++17 Bazel Protobuf Networking Git

## >\_ PERSONAL PROJECTS

### PROGRAMMING LANGUAGE : SUDOCODE

DEC 2019 - NOW

- Wrote a lexer, parse tree and abstract syntax tree generator from scratch
- Created a tool to visualize the graphs that are created as the input code is interpreted

C++ Make Graphviz Git

### iOS APP : FCE++

MAY - AUG 2019

- Created an iOS app on which students can view CMU's course information and ask questions on courses
- Utilized the Parse Platform API and HTTP requests to manage a server-side database
- Compiled data from CMU's CSV of course data to JSON format using Python's Pandas, CSV and JSON modules

Swift Xcode Dev Tools Python HTTP Web APIs Git

## 📖 COURSEWORK

15-445 - Database Systems (current)

15-418 - Parallel Computer Architecture and Programming (current)

15-414 - Bug Catching : Automated Program Verification

## 📋 SKILLS

**Programming Languages** C++17, C, Python, Swift, SML, x86-64 Assembly

**Development Tools** Git, Vim, Xcode, Make, Bazel, Tmux

## ▶ EXTRACURRICULARS

### THE ATLAS PROJECT | SOFTWARE LEAD

AUG 2019 - NOW

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