

# Sam FLATTERY

## Software Engineer

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## EDUCATION

### CARNEGIE MELLON UNIVERSITY Bachelor of Science in Computer Science

MAY 2022

- > Concentration in Computer Systems
- > GPA : 3.84 / 4.00
- > Dean's List : Fall 18, Spring 19

## PERSONAL PROJECTS

### PROGRAMMING LANGUAGE : SUDOCODE

DEC 2019 - JAN 2020

- > Designed and implemented a programming language called sudoCode
- > Researched and learned about grammars, language specifications and parsing theory
- > Learned C++ in order to leverage OOP principles to create a modular code base
- > Created a tool to visualize the graphs that are created as the input code is interpreted
- > Wrote a lexer, parse tree and abstract syntax tree generator from scratch

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 and answer questions on courses
- > Learned Swift and iOS development from scratch
- > Utilized the Parse Platform API and HTTP requests to manage a server-side database of user information and comments
- > 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

15-213 : Introduction to Computer Systems  
15-251 : Great Ideas in Theoretical Computer Science  
15-414 : Bug Catching : Automated Program Verification (current)  
15-210 : Parallel and Sequential Data Structures and Algorithms (current)  
15-330 : Introduction to Computer Security (current)

## SKILLS

**Programming Languages** C, Python, C++, Swift, SML, x86-64 Assembly  
**Development Tools** Git, Vim, Xcode, Make, Tmux  
**Operating Systems** macOS, Linux, Windows  
**Other languages** Irish, French

## EXTRACURRICULARS

### THE ATLAS PROJECT | SOFTWARE DEVELOPER

AUG 2019 - NOV

- > Working on developing an autonomous, gravity-powered vehicle
- > Created a ROS module to parse data received via serial connection from the sensors and publish it to the on-board computer for processing
- > Researching ways to incorporate machine learning into the vehicle's control mechanism

### INTERNATIONAL BASKETBALL

2017

- > Selected to play on the Irish International Basketball Team