

COLBY HASKELL

cchaskel@usc.edu | (207) 542-6348 | www.colbyhaskell.com

Education

University of Southern California

August 2019 – December 2022

B.S. Computer Engineering and Computer Science

- **Courses:** OOP (C++), Algorithms, Networking, Computer Systems, Linear Systems
- **3.6 GPA**, Presidential Scholar, Embedded Systems Track

Skills

Languages: C, C++, Python, Matlab Verilog, JavaScript

Technologies: Bash, CI/CD, Docker, Git, MySQL, Parallel Programming, Scikit-learn

Other: Signal Processing, Software Versioning, Test-Driven Development, Agile Workflows

Professional Experience

Spacecraft Software Engineering Intern

Broomfield, CO

CesiumAstro

May 2022 – August 2022

Satellite communications company

- Designed and developed the system architecture for a hardware-in-the-loop satellite test bed
 - Developed software to integrate orbit simulations with flight software using a TCP/IP connection
 - Created a Flask web app for data visualization using Dash and Plotly Python Libraries
 - Created the CI/CD pipeline for automated testing of simulation scripts using Docker containers
- Kickstarted development of flight software using NASA's core Flight System
 - Designed and developed the high-level software architecture
 - Created a cFS library in C to connect the OSAL to POSIX shared memory
 - Developed cFS apps in C for ADCS, hardware and simulation I/O, and ground communication
- GNC Subsystem Design
 - Debugged simulation modules for GNC subsystems
 - Conducted a trade study and selected a baseline IMU for our satellite

Undergraduate Research Assistant

Los Angeles, CA

USC Dynamic Robotics and Control Lab

August 2020 – January 2021

University research lab

- Improved existing control and simulation software for autonomous quadruped robots used in the lab
 - Created a parser to load and dump JSON configuration files from the ROS control software
 - Developed a GUI using Qt C++ to configure control software and Gazebo simulation parameters
- Introduced new members to control and simulation software to lead the start of a new lab project

Projects

SmartFridge Worked with two teammates to design and develop the hardware architecture and software for a smart fridge device built on a bare-metal ATmega328p.

BetterBrews Released an IOS app for coffee brewing using a Swift front-end and CloudKit back-end

QtChess A chess game created with Qt and C++, uses Cmake, CTest, and Catch tests

CSCI Visualizer A JavaScript web app for visualizing algorithms from Data Structures class