

EDUCATION

Bachelor of Science, Computer Engineering and Computer Science, **GPA 3.76**
University of Southern California, expected May 2022

SKILLS

Languages: C++, Python, Javascript, Bash, Java

Libraries: NodeJS, Flask, Angular, SciPy stack, DPDK, SPDK

Other: Linux, AWS, MongoDB, Redis, Postgres, Docker

EXPERIENCE

Research Assistant

Fall 2018 to Present

USC Information Sciences Institute, Marina del Rey, CA

- Created an adaptive in-kernel defense to detect and mitigate low-rate denial of service attacks
- Built a mitigation tool for denial of service attacks against DNS servers using DPDK
- Building a tool to detect hash functions in ELF binaries

Engineering Intern

Spring 2020 to Present

NASA Jet Propulsion Laboratory, Pasadena, CA

- Developed flight software-in-the-loop kinematic simulation software for the Mars 2020 and Mars Science Laboratory rovers
- Developed testing and CI infrastructure for above simulation software
- Caught fatal bugs in Mars 2020 flight software

Research Intern

Summer 2019

Sandia National Laboratories, Livermore, CA

- Benchmarked and found optimal use cases for AMD Epyc CPUs in a HPC cluster
- Implemented a kernel bypass solution for packet capture and analysis at 100Gbps speeds on commodity hardware to enhance testbed experiment analysis

Course Producer

Fall 2019

University of Southern California, Los Angeles, CA

- Assisted students with labs and questions for USC's EE109 class

SIDE PROJECTS

- Lead devops for the USC Rocket Propulsion Lab infrastructure team, managing support software deployments with Docker and providing CI and unit testing support
- Designed a Turing-complete programming language based on Spotify playlists
- Contributed to open source projects including Signal, openMW, moment.js, and angr

PUBLICATIONS

- Design Challenges Associated with Reliable 100GigE Packet Capture
DOI: 10.2172/1560808
- Low-Rate Denial-of-Service Attacks Defense
DOI: 10.13140/RG.2.2.34538.88007