

## Experience

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### Lithic (Backend Engineer)

July 2021 - November 2022

Tech Stack: C++, Python, Rust, Java, Postgres

- Migrated internal transaction definition to reflect future service integration
- Designed and implemented internal tooling to allow other engineers to modify existing customer transaction configurations
- Designed and implemented mock transaction endpoint service using **FastAPI** for end to end testing in a staged AWS environment
- Designed internal tooling with **Retool** to empower other engineers to execute system configuration changes safely

### Splunk (Software Engineer)

December 2020 - June 2021

Tech Stack: C++

- Designed solution to prevent dataloss observed on Splunk technical add-ons

### Arista Networks (Software Engineer)

July 2017 - November 2020

Tech Stack: C++(TACC), C, Python,

- Led software validation support for five 720XP series PoE switch development by coordinating with cross-functional teams (manufacturing, test, hardware)
- Wrote OS firmware for initial board bringup
- Designed and wrote system software for displaying on-device FPGA information using Python
- Created test infrastructure improvement for detecting product spontaneous reboots

### Colorado School of Mines CS Department (Instructor)

January 2017 - May 2017

- Taught introductory C++ concepts to 60 students
- Course included Lectures, Exams, Homework, and extra help during office hours.

### Ricoh America (Automation Tools Developer Intern)

May 2016 - August 2016

- Developed a full-stack web application for printer performance analysis using ASP.NET MVC
- Webtool provides 300% more control for customer over previous tool
- Increased code resilience to future SQL database changes

## Projects

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### App Launch Inference

August 2016 - August 2017

Tech Stack: Python, Wireshark

- Research security vulnerabilities by eavesdropping on app launch instances on Android devices
- Utilized scikit-learn to train and infer app network packets on each device
- Successfully inferred app launches with 90% or higher accuracy using Random Forest and SVM classifiers

### Pool Table Recognition

April 2016 - December 2016

- Built C++ program to detect pool tables from a smartphone image using OpenCV
- Final image displayed a top-down perspective of the table

## Education

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### Colorado School of Mines M.S.

May 2017

Computer Science

### Colorado School of Mines M.S.

May 2015

Engineering Physics