

# Christopher McCormick

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## Summary

A senior Electrical Engineering Student with a background in RF and embedded systems development. Although, that does not stop me from indulging in other topics such as Quantum Mechanics, Power Electronics and IT.

## Education

### B.S.E in Electrical Engineering

Arizona State University

Focus: RF Design & Embedded Systems

Senior (4+1) – GPA: 3.71

Graduating May 2023

Tempe, AZ

## Technical Skills

**Programming:** C/C++ (Proficient), Python (Proficient), Java (Proficient), Assembly (Intermediate), Bash (Proficient), Matlab (Proficient), Verilog (Proficient), VHDL (Intermediate), Git (Proficient)

**Lab Equipment Experience:** Spectrum Analyzer (Intermediate), Oscilloscope (Proficient), Logic Analyzer (Proficient), Multimeter (Proficient), Software Defined Radios (Intermediate), VNA (Intermediate)

**Simulation Experience:** HFSS (Intermediate), ADS (Intermediate)

**PCB Design:** KiCad (Proficient), LTSpice (Proficient), Soldering (Proficient), SMD Rework (Proficient).

**3D Modeling & Printing:** Fusion 360 (Intermediate), Filament Printing (FDM), Laser Sintering (SLA)

**Certificates:** ARRL Amateur Radio License (KJ7TZG)

## Professional Experience

**General Dynamics Missions Systems: Systems Test Integration Intern (10 hr./week)** 07/2022 – Current

- Developed and maintained Python test scripts for payload testing.
- Debugged payload operation using RF testing equipment.

**ASU Interplanetary Initiative Lab: Research and Project Intern (20 – 30 hr./week)** 09/2021 – Current

- Integration & Software Development Lead for Lightcube
- Designed PCB for rapidly developed NASA funded project – Exocam
- Designed PCB for 6U Cubesat payload - SPARCS
- Lead Technician for RF Equipment and Vibration Testing System.
- Contributed to Open Source Radio Development - Planet OpenLST Radio
- Assist Students with Embedded Systems Development with Protocol Demonstrations.

**Pulselink IT Summer Intern (40 hr./week)** 05/2020 – 08/2020

- Assisted with Local Server to Cloud based Data Migration.
- Developed various scripts and Docker images to accelerate the process as necessary.

**ASU Inventory Clerk (15-20 hr./week)** 08/2019 – 09/2020

- Developed Various Excel and python scripts to accelerate the inventorying process.

## Papers

**2021 Small Satellite Conference - Deployable Optical Receiver Array Cubesat**

- Contributor for the UHF Radio Section

## Side Projects

### RISC-V Experimentation:

- Explored the new ISA and published documentation for beginners.
- Experimented with GPIO, PWM, I2C using assembly.

### FPGA Development:

- Bit-banged various communication protocols (Ethernet-IEEE802.3, HDMI, VGA, SPI, I2C).
- Worked with both Altera and Xilinx FPGAs and familiarized myself with their respective IDEs.
- Developed Simple Pong Game for VGA testing.

### Motherboard Repair:

- Debugged and repaired older server motherboards with known Clock failures and published documentation.

### Custom Electric Bike

- Converted existing Bike Frame to function with an electric motor. Performed various controller modifications and published documentation on said bike.

## Activities

**Sun Devil Satellite Laboratory**

2020-2021

- Team Member then Team Lead for Hyperspectral Cubesat Project