

Christopher McCormick

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Summary

A Masters 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

GPA: 3.71 - May 2023

Masters in Electrical Engineering

(4+1) Graduating May 2024

Arizona State University

Focus: RF Design & Embedded Systems

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: RF Design Engineering Intern (40 hr./week) **05/2023 – Current**

- Evaluated Texas Instrument ADC for future mission utilization.
- Created analysis scripts for SFDR, SINAD, IP3.
- Utilized RF Test Equipment – Spectrum Analyzer, Signal generators, Vector Network Analyzers

General Dynamics Missions Systems: Systems Test Integration Intern (10 hr./week) **06/2022 – 05/2023**

- 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.

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