**Christopher McCormick**

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Github – https://github.rommac100.com | Website – https://blog.rommac100.com

**Summary**

A Junior Electrical Engineering Student with a background in embedded system and RF 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 Junior – GPA: 3.71**

**Arizona State University Graduating May 2023**

**Focus**: Embedded Systems & RF Design **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), Multimeters (Proficient), Software Defined Radios (Intermediate)

**Operating System Experience:** Linux (Expert), Windows (Proficient), Mac OS (Proficient)

**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**

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

* Software Development for the LightCube and DORA Satellites.
* PCB Design for rapidly developed NASA funded project - Exocam
* Lead Technician for RF Equipment and Vibration Testing System.
* Contributed to Open Source Radio Development - Planet OpenLST Radio
* Team Lead for Attitude Determination and Control System (ADCS) Test bed Development.
* 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-IEE802.3, 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 Graphics Card Adapter**

* Designed an adapter PCB that routes existing DVI ports to HDMI connectors to allow graphics cards to fit in more restrictive environments. Published documentation on my website.

**Custom Electric Bike**

* Converted existing Cargo 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