Newt Powers

github.com/newt-powers | linkedin.com/in/newt-powers/

Education

Cornell University, B.S. Electrical and Computer Engineering **Aug 2021-May 2023**
Santa Rosa Junior College, A.S. Computer Science | GPA: 3.01 **Jun 2024-May 2025**
Relevant Courses: Embedded Systems, Digital Logic and Computer Organization, Intro to Circuits, Intro to MATLAB, Data Science for Engineers, Web Development 1*, Discrete Math* **currently enrolled*

Skills

Software: C, C++, Python, Verilog, VHDL, MATLAB, Linux, AutoCAD, HTML, CSS, Javascript
Technical Equipment: Arduino, Raspberry Pi, Jetson Nano, 32 Bit ARM Dev Board, FPGAs, Xilinx

Professional Experience

NASA, *Electrical Engineering Intern* | Presentation Link **Jan 2024-May 2024**
- Implement a counting method to calculate and store accelerometer frequencies in 6 registers using VHDL to obtain more precise angle measurements for aeronautics applications
- Write a script for SPI communication for a binary signal 96 bit MISO transmission to a microcontroller

RTX, formerly Raytheon, *Systems Engineering Intern* **June 2023-Aug 2023**
- Performed AN/TPY-2 radar simulations utilizing Linux and reported errors to the hardware team
- Developed a script to plot simulation objects to aid in future regression efforts for 10 deployed radars
- Analyzed 6 MATLAB script errors to root cause issues to ensure test functionality for future analysts

Extracurricular Experience

Cornell Autonomous Drone, *Electrical Engineering Subteam Member* **Oct 2021-May 2023**
- Breadboarded a motor control rig circuit and wrote a script in C++ that conducted thrust calculations with a potentiometer and an Arduino microcontroller
- Programmed a virtual controller by emulating drone channels and sending data to a Raspberry Pi
- Write test scripts in Python to test the GPIO pin outs of a Jetson Nano to ensure the correct pitch, yaw, and roll value

Cornell Engineers in Action, *Project Manager, Quality Control Engineer* **Oct 2021-May 2023**
- Built a 100 meter footbridge in Eswatini, Africa over 6 weeks while measuring tier heights, mixing concrete to the correct ratios, bending rebar, and documenting as-built dimensions for a drawing set
- Lead 30 student team and craft weekly meeting plans while communicating review call deadlines, writing legal chapter agreements, and helping raise over 20,000 dollars

Projects

Soil Moisture Sensor App, *Programmer* | Demo Link **Apr 2024**
- Utilized an Arduino and a soil moisture sensor to alert users when they need to water their plants
- Read moisture data into a Python script over a serial port and sent the value to a MongoDB database
- Built a website for analytics, winning People and Planet Hack out of 100+ participants and 27 teams

Embedded Accelerometer Game, *Programmer* | Article Link **Apr 2023-May 2023**
- Mapped tilting of an on-board accelerometer to the horizontal motion of a spaceship avoiding asteroids with button interrupts for a reset button using C, transmitting data through a USB interface
- Created a random spawn algorithm and collision logic for 8 game objects in Python using Pygame

Holy Health, *Programmer* **Feb 2020**
- Built a website that helps people diet on religious holidays such as Ramadan and Yom Kippur
- Designed and constructed a user dashboard and about page using HTML, CSS, and Bootstrap
- Implemented functionality for user login with a Google account using Firebase and Javascript