Max Marshall

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EDUCATION

B.S. in Aeronautical Engineering, Dual Major in Computer Science **2018 – 2023**
Rensselaer Polytechnic Institute *Troy, NY*

WORK EXPERIENCE

NASA Johnson Space Center **Spring 2022**
Undergraduate Researcher *Remote - Houston, TX*

- Assembling, testing, and operating a star tracker from Commercial Off-the-Shelf (COTS) components
- Debugging and adding functionality to open-source software in development by NASA

RPI Center for Earthquake Engineering Simulation **Fall 2020 & 2021**
Undergraduate Research Assistant *Troy, NY*

- Creating and debugging python code for an automated saturation system using OpenCV
- Providing experience with electrical systems for centrifuge controller maintenance

RPI Critical Computer Science **Spring 2020**
Undergraduate Research Assistant *Troy, NY*

- Devising surveys and collecting data from current and past Computer Science (CS) students
- Addressing the potential for a revised CS curriculum with a focus on teaching ethical programming

City of Woburn Engineering Dept **Fall 2016 - Fall 2018, Summer of 2019 & 2021**
Paid Intern *Woburn, MA*

- Performing outfall and catch basin inspections as part of the city's Stormwater Taskforce
- Drawing plot plans and subdivisions in AutoCAD

PROJECTS

Cluster Computer **On-going**

- Creating a cluster computer from a number of single board computers (SBC)s via MPI
- Wiring, booting, networking, and writing software to manage the clusters jobs, power, and temperature
- Adding extra accessibility in the forms on a Discord bot and React/NodeJS monitoring website

Go-To Telescope **On-going**

- Designing, 3D-printing, building, and programming an open source go-to telescope
- Hacking an 18V rechargeable drill battery to use as a power source and discarded stepper motors to drive it
- Writing code to predict the locations of astral bodies given the current time and coordinates

Smart Fridge **Fall 2019**

- Group project to create a product capable of retrofitting any refrigerator into a smart fridge
- Establishing, maintaining, and writing code to interact with a Firebase database from a Raspberry Pi

TECHNICAL SKILLS

Languages: Python, C/C++/C#, MATLAB, Bash, LaTeX, JS
Software: Fusion360, STK, MATLAB, Simulink, Siemens NX, AutoCAD, Excel
Experienced with: Linux, MPI, Parallel Computing, Microcontrollers

COURSEWORK

- Space Vehicle Design
- Aerodynamics
- Principles of Software
- Algorithms
- Propulsion Systems
- Numerical Design Optimization
- Computer Organization
- Data Structures