

MAX MARSHALL

Woburn, MA

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EDUCATION

M.S. in Aeronautical Engineering

Rensselaer Polytechnic Institute - GPA 3.00

Expected 2024

Troy, NY

B.S. in Aeronautical Engineering, Dual Major in Computer Science

Rensselaer Polytechnic Institute - GPA 3.10

May 2023

Troy, NY

WORK EXPERIENCE

NASA Johnson Space Center

NASA OSTEM Intern

Summer 2022

Houston, TX

- Created a tool to perform post-flight analysis for Artemis I, examining the usage of star catalogs
- Made significant headway into programming a dependency-free JPEG reader in C++
- Rewrote camera calibration code for the Orion Docking Camera as OOP to interface with gimbal
- Helped generate documentation for and troubleshoot Spatial Analyzer for use with theodolites

NASA Johnson Space Center

Undergraduate Researcher

Spring 2022

Remote - Houston, TX

- Assembled, tested, and operated a star tracker made from Commercial Off-the-Shelf (COTS) components
- Debugged and added functionality to open-source software in development by NASA

RPI Center for Earthquake Engineering Simulation

Undergraduate Research Assistant

Falls of 2020 & 2021

Troy, NY

- Created and debugged python code for an automated saturation system using OpenCV
- Provided experience with electrical systems for centrifuge controller maintenance

City of Woburn Engineering Dept

Paid Intern

Fall 2016 - Fall 2018, Summers of 2019 & 2021

Woburn, MA

- Performed outfall and catch basin inspections as part of the city's Stormwater Taskforce
- Drew 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 cluster's jobs, power, and temperature
- Adding extra accessibility in the forms of 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

TECHNICAL SKILLS

Languages: Python, C/C++/C#, MATLAB, Bash, LaTeX

Software: Fusion360, Systems Tool Kit (STK), MATLAB/Simulink, Siemens NX, Spatial Analyzer

Experienced with: Linux, MPI, Parallel Computing, Simulation, AI/ML, Microcontrollers, Git

COURSEWORK

- Space Vehicle Design
- Spaceflight Mechanics
- Mechatronics
- Numerical Computing
- Machine Learning for Autonomous Systems
- Numerical Design Optimization
- Computer Organization
- Data Structures