Andrew Malatak

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Education

The University of Texas at Austin
Bachelor of Science, Aerospace Engineering (Spring 2020)
Certificate, Computational Science and Engineering
GPA: 3.85

Experience

Independent Verification and Validation Intern, Odyssey Space Research (Summer 2019)

- Worked on a simulation team to test SpaceX ground software
- Wrote ground software test-cases using Python class-based structure and post-processed
- Expanded FSW testcase architecture to ground software within virtual environment structure
- Troubleshoot SpaceX ground software including server-client communication and document

Lead GNC Engineer, Texas Rocket Engineering Lab (Spring 2019 - Present)

- Work in a small team to develop GNC algorithms for liquid fueled karman-line-sized rocket
- Chief architect of Trick-based C++ 6DOF simulation for FSW modelling and testing
- Created documentation system and determined simulation modelling requirements
- General Python scripting to simplify and automate design and data processing

Advanced Technology Lab Intern, Applied Research Laboratories (Summer 2018)

- Worked in a highly independent team to design and build an autonomous aquatic surface craft
- Developed software to interface microcontrollers, sensors, and autonomous applications using C++ and Python
- Tested and repaired network, guidance, and data logging systems with Python and Linux

Chief Engineer, Texas Guadaloop (Fall 2016 - Fall 2018)

- Managed design, manufacturing, business outreach, and analysis of the hyperloop pod
- Reduced recent generation pod weight from 500 to 150 kgs by redesigning frame and pneumatics
- Designed and analysed frame, suspension and propulsion systems with Solidworks and MATLAB
- Competed in SpaceX hyperloop design competition II, III

Academic Projects

Attitude Control System Simulation

- Built a C++ simulation for relative attitude control system of a chaser-target two satellite system
- Created a quaternion estimate using TRIAD and designed a phase-plane controller
- Modelled simulated camera sensor error, geometry, and system discretization

Skills

- Proficient with Python, C/C++, MATLAB, Linux, Simulink, Trick, SolidWorks,
- Experience with Fortran 90, LaTeX, STK, LabView, OpenMP, MPI