Skye Mceowen

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EDUCATION

University of Washington, W. E. Boeing Dept. of Aeronautics and Astronautics **Fall 2018—Present**
PhD Student studying optimal guidance of aerospace vehicles, expected 2025
Adviser: Dr. Behçet Açikmeşe

University of Southern California, Viterbi School of Engineering **May 2018**
B.S. Astronautical Engineering
Trustee Scholarship: Full-tuition merit-based scholarship

WORK EXPERIENCE

UW Autonomous Controls Laboratory, *Researcher and Labspace Manager* **Summer 2019—Present**

- Researching real-time convex-optimization based trajectory generation algorithms for hypersonic entry vehicles and aerial drones
- Responsible for implementing and developing flight and ground vehicle demonstrations for our group's optimal guidance and control algorithms, developing hardware and software, and managing lab operations
- Developing custom sequential convex programming path planning codebase in Matlab, C++ and Python

SpaceX, *Starship Guidance, Navigation and Control Intern* **Fall 2024**

- Acted as flight 7 RE: completed stand-up/tuning of trajectory design, 6-DoF simulation and Monte Carlo
- Extended trajectory optimization framework for reentry design to incorporate operational constraints

NASA Johnson Spaceflight Center, *EG5 Flight Mechanics and Trajectory Branch, Visiting Researcher* **Spring 2024**

- Researched and developed hypersonic reentry trajectory optimization methods

SpaceX, *Starship Guidance, Navigation and Control Intern* **Summer 2022**

- Performed analysis, modeling and development for flight vehicle on-orbit operations and hypersonic reentry

SpaceX, *Starship Guidance, Navigation and Control Intern* **Summer 2021**

- Performed analysis, modeling, and simulation development in support of the vehicle's first orbital flight

SpaceX, *Satellite Guidance, Navigation and Control Intern* **Summer 2020**

- Implemented a flight algorithm for a satellite, and ran simulations and Monte Carlos for verification events

Blue Origin, *Engine Avionics Intern* **Summer 2018**

- Designed, implemented and tested a stability analysis tool for the BE-4 engine plant and controller
- Built and tested the Hardware-In-the-Loop (HIL) system for simulating the engine controller on the test stand

Blue Origin, *Avionics Hardware Engineering Intern* **Summer 2017**

- Researched the near-field effects of welding on the avionics boxes to determine electromagnetic susceptibility to OTW, AC TIG and DC TIG welding on integrated launch vehicle

SpaceX, *Vehicle Engineering Intern* **Summer 2016**

- Produced and delivered entire Thermal Control System side of qualification ground test for Crew Dragon
- Created extensive manufacturing instructions for orbital tube welded subassemblies of thermal fluid systems, delivered hardware for manned flight tests, and developed a custom thermal epoxy

HITCO Carbon Composites, *Process Engineering Intern* **Summer 2015**

- Led and managed project to repair Boeing 787-9 carbon fiber floor beams

Planetary Resources Inc., *Part-Time Intern* **Fall 2013 – Spring '14**

- Worked on *ARKYD* project to develop a microsatellite camera/screen payload

Champion & Associates Inc., *Intern* **Summer 2013 – '14**

- Design improvement and assembly of electrical control panels for Boeing factory cranes

LEADERSHIP, EXTRACURRICULARS AND ACCOMPLISHMENTS

USC Rocket Propulsion Laboratory, *Lab Lead* & *Lead Avionics Engineer* **Fall 2014 – Spring '18**

- Led the lab through the build of the first student rocket design to pass the Kármán line (Traveler III space shot)
- Responsible engineer for all vehicle avionics hardware and software, and lab electrical infrastructure
- Hands-on experience fabricating, machining, integrating and testing high-performance amateur rockets from scratch

Target Following via Computer Vision on Embedded Systems, *Senior Project* **Fall 2017**

- Designed and built autonomous tracking system to control a camera via a Raspberry Pi to follow a target