

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 Açıkmış	
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
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Researched and developed hypersonic reentry trajectory optimization methods 	
SpaceX, Starship Guidance, Navigation and Control Intern	Summer 2022
<ul style="list-style-type: none"> Performed analysis, modeling and development for flight vehicle on-orbit operations and hypersonic reentry 	
SpaceX, Starship Guidance, Navigation and Control Intern	Summer 2021
<ul style="list-style-type: none"> Performed analysis, modeling, and simulation development in support of the vehicle's first orbital flight 	
SpaceX, Satellite Guidance, Navigation and Control Intern	Summer 2020
<ul style="list-style-type: none"> Implemented a flight algorithm for a satellite, and ran simulations and Monte Carlos for verification events 	
Blue Origin, Engine Avionics Intern	Summer 2018
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Led and managed project to repair Boeing 787-9 carbon fiber floor beams 	
Planetary Resources Inc., Part-Time Intern	Fall 2013 – Spring '14
<ul style="list-style-type: none"> Worked on ARKYD project to develop a microsatellite camera/screen payload 	
Champion & Associates Inc., Intern	Summer 2013 – '14
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Designed and built autonomous tracking system to control a camera via a Raspberry Pi to follow a target 	

TECHNICAL AND SCIENTIFIC PUBLICATIONS

- S. Mceowen, S. Uzun and B. Acikmese (2025). *Multi-phase Entry, Descent and Landing Guidance using Sequential Convex Programming*. In preparation for AIAA Journal of Guidance, Control and Dynamics (JGCD).
- S. Mceowen, D. Calderone and B. Acikmese (2025). *Auto-Tuned Primal-Dual Successive Convexification for Trajectory Optimization*. In preparation for IEEE Control Systems Letters (L-CSS).
- S. Mceowen, A. Mittal and B. Acikmese (2025). *Hypersonic Reentry with Continuous-Time Constraint Satisfaction*. In preparation for AIAA Journal of Guidance, Control and Dynamics (JGCD).
- S. Mceowen, A. Tiwary, J. S. K. Zhou, T. Kim, P. Elango and B. Acikmese (2025). *Auto-tuned Primal-dual Successive Convexification for Reentry Guidance*. Under review for AIAA Journal of Guidance, Control and Dynamics (JGCD).
- S. Mceowen, A. Tiwary, J. S. K. Zhou, T. Kim, P. Elango and B. Acikmese (2025). *Auto-tuned Primal-dual Successive Convexification for Hypersonic Reentry Guidance*. In 2025 AIAA Science and Technology Forum (SciTech).
 - **Winner of the Best Graduate Student Paper Competition for GNC.**
- S. Mceowen, A. Kamath, P. Elango, T. Kim, S. Buckner and B. Acikmese (2023). High-Accuracy 3-DoF Hypersonic Reentry Guidance via Sequential Convex Programming. In 2023 AIAA Science and Technology Forum (SciTech).
- A. Kamath, P. Elango, T. Kim, S. Mceowen, Y. Yu, J. Carson, M. Mesbahi, B. Acikmese (2023). Customized real-time first-order methods for onboard dual quaternion-based 6-DoF powered-descent guidance. In 2023 AIAA Science and Technology Forum (SciTech).
- A. Kamath, P. Elango, Y. Yu, S. Mceowen, G. Chari, J. Carson III, B. Açıkmeşe. Real-Time Sequential Conic Optimization for Multi-Phase Rocket Landing Guidance. In 2023 22nd IFAC World Congress.
- Y. Yu, S. Mceowen, and K. Nagpal (2022). Real-Time Quad-Rotor Trajectory Optimization using Time-Triggered Flight-Corridor Constraints. In preparation for AIAA Journal of Guidance, Control and Dynamics (JGCD).
- S. Mceowen, D. Sullivan, B. Chasnov, D. Calderone, M. Szmuk, O. Sheridan, and B. Acikmese (2022). Visual Modeling System for Optimization-Based Real-Time Trajectory Planning for Autonomous Aerial Drones. In 2022 IEEE Aerospace Conference (AeroConf).
- S. Mceowen, and B. Acikmese (2022). Hypersonic Entry Trajectory Optimization via Successive Convexification with Abstracted Control. In 2022 AIAA Science and Technology Forum (SciTech).
- M. Szmuk, D. Malyuta, T. Reynolds, M.S. Mceowen, and B. Acikmese (2019). Real-Time Quad-Rotor Path Planning Using Convex Optimization and Compound State-Triggered Constraints. In 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).

SKILLS

Software: Altium, NX, CATIA, SolidWorks, Creo, Git, C++, MATLAB, Simulink, Python, Julia

Practical: Machining on the mill and lathe, soldering, composite layups, orbital tube welding, wrangling Linux, testing