KALEB KILLIAN BORDNER

240-344-2352 | kaleb.bordner@gmail.com | Sacramento, California

Education

B.S. - University of Maryland, College Park - Aerospace Engineering, *May 2016*
3.66 cumulative / 3.76 in major GPA
Notable Coursework: *Atmospheric Flight Control, Flight Dynamics, Flight Testing, Aerospace Control Systems, Partial Differential Equations, Complex Variables*

Research Interests

- Aircraft Stability, Control, and Maneuverability
- Adaptive control under unanticipated configuration changes
- Applications of Machine Learning (specifically Reinforcement learning) for flight control
- Application of Flight Control strategies observed in nature
- Low Reynolds Number aerodynamics

Professional and Research Experience

Software Engineer, Avxtel, *September 2018 – Present*

- Developing data visualizations, metric dashboards, and workflow models to produce efficient web applications.
- Collaborating in a small, remote, agile teams utilizing kanban to deliver software updates continuously.

Flight Dynamics Engineer, Naval Air Warfare Center, *July 2016 – August 2018*

- Synthesized Flight test data and pilot comments into engineering reports used to assess the achievement of stability and control contract specifications.
- Researched a Heads Up Display cueing solution for rotorcraft dynamic interface in high sea states. Visualized and analyzed simulation control input data in the frequency domain using power spectral density.

Flying Qualities Flight Test Engineer, Naval Air Warfare Center, *July 2017 – January 2018*

- Supported F-35B STOVL flight testing operations and data generation in the control room.
- Developed a geometric landing model to explain early touchdown events seen in testing. Validated against experimental data.

Research Assistant, Alfred Gessow Rotorcraft Center, *June 2014 – August 2015*

- Investigated the effect of flexibility on the fundamental aerodynamics and lift generation capability of a flapping wing Micro Aerial Vehicle.
- Analyzed wing deformations and rotational dynamics with the VICON motion capture system to generate data for CFD simulation model validation.

Teaching Experience

Teaching Fellow - Aerospace Control Systems, University of Maryland, *Spring 2016*

- Supported student learning in classical control theory via office hours and grading of homework assignments.

Projects

AIAA Design Build Fly, Production Aircraft Chief Engineer, *Spring 2016*

- Coordinated a twelve person senior design team to manufacture two competition ready radio controlled aircraft.
- Structured and edited a 60 page design report that ranked 16th out of 80 submissions.

Publications and Presentations

James Pritchard, John Tritschler, David Arteche, Joe Allen, **Kaleb Bordner***, James Bumbaugh, "A Cueing Set For Piloted Approach And Hover In Simulated Shipboard Environment", American Helicopter Society International 74th Forum, Phoenix, Arizona, *May 14-17, 2018* (Oral presentation)

Service

- Member, NorCal Resist, Sacramento Chapter, *2021, 2022*
- Mentor, SUAS Competition, St. Mary Ryken's High School, *2018*
- Volunteer, STEM-ING, St. Mary's College of Maryland, *2017, 2018*
- High School Science Project Mentor, Great Mills High School, *2017*
- Treasurer, Sigma Gamma Tau (*Aerospace Honor Society*), Maryland Chapter, *2016*

Skills

Programming	Python / Ruby / C & C++ / Javascript / Lua
Tools	Matlab & Simulink / Git / Linux / SQL
Modeling	AutoDesk Inventor / SolidWorks / VICON / Photoshop
Research Techniques	Motion Capture / Particle Image Velocimetry (PIV)
Manufacturing	CNC Milling / Rapid Prototyping / Laser Cutting / Soldering