Brandon Harris

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Education

BS in Aerospace Engineering — May 2016 - CU Boulder
MS in Aerospace Engineering, Fluids and Propulsion Focus — Dec 2017 - CU Boulder

Technical Skills

- Aircraft systems design, including distributed electric propulsion and VTOL aircraft
- Integration of complex hardware, software, and electrical systems into a cohesive product
- Extensive design and manufacturing for aerospace application, including CNC mill/lathe, welding, composites, woodworking, and metal and plastic additive manufacturing
- Data analysis in MATLAB/Octave and Python
- Part/assembly design in SolidWorks, Onshape, and Catia
- Data acquisition and actuator control with LabVIEW, Phidgets w/Python, and Arduino

Experience

Opener – Flight Test Engineer — May 2018 - Present

- Developed vehicle operator manual and training curriculum from scratch, including all writing and graphics
- Organized logistics, scheduling, and subsystem engineering personnel to carry out 150+ local, remote and international flight test sessions.
- Led flight test sessions, in addition to performing all other flight testing roles.
- Designed, manufactured, and operated subsystem test apparatuses.
- Systems level management of virtual reality flight sim chair, including VR development in Unity.
- Various carbon fiber, wood, and metal manufacturing for production aircraft, field repairs, and test stands.

CU Wind Tunnel Lab - Research — August 2017 - December 2017

- Design and test of an active closed loop feedback flow control system for a supersonic wind tunnel.
- Designed and 3d printed supersonic nozzles and actuator mechanisms.
- Developed LabVIEW UI for pressure and temperature data acquisition and PID actuator control.

CU AES Machine Shop - Design and Manufacturing Engineer — August 2016 - December 2017

- Design and manufacture of hardware and electronics for undergraduate labs, professional research, and senior and graduate projects.
- Designed and manufactured a prototype column buckling test apparatus in SolidWorks and SolidCAM, including stress analysis.
- Scaled manufacture of buckling test rigs up to 12 units for use in an undergraduate structures lab.

Graduate Projects – AMARCS – Test and Systems Engineer — August 2016 - May 2017

- Served as testing lead and systems engineering lead. Multi-year graduate design project.
- Worked on a team of 10-12 students to design, manufacture, and test a ULA sponsored additive manufactured, regeneratively cooled, 50 lb thrust reaction control rocket engine.
- As systems engineering lead, oversaw interfaces between subsystems and worked on high level tasks designing and testing the feed system, electronics and software control system, and ignition system.
- As testing lead, developed test procedures and coordinated multiple full day, offsite rocket tests.

Other

- Hobby 3d printing, basic circuit design and electronics assembly, Photoshop and Blender for 2d/3d graphic generation; exposure to OpenFOAM, SolidWorks Flow Sim, Simulink, C/C++ embedded systems, HTML/CSS/JS (React).
- Excellent Googler.
- Former ski racer, great cook, personal project enthusiast. Ask me about my light!