Jacob Killelea

Contact:
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Education:

University of Colorado at Boulder: Bachelor of Science, Aerospace Engineering Sciences, 2019.
Major GPA: 3.55, Cumulative: 3.49

Skills and Experience:

Software*:*
8+ years Linux experience, primarily Ubuntu and Red Hat systems.
5+ years programming experience in C, C++, Rust, Ada, MATLAB, Ruby, Python, Bash, Fortran, and Java.
Flight Software: CoreFlight.
CFD: Ansys Fluent, CFL3D, OpenFOAM.
Orbital Mechanics: STK.
CAD: FreeCAD and SolidWorks.
EDA: KiCad and Eagle
GitHub: github.com/Jkillelea

Physical Tools:
Machine shop: mills and lathes, aluminum and steel fabrication.
Electronics: PCB assembly, both hand soldering and hot air reflow.

Flying:
100 hours, single engine land VFR.
Private Pilot certificate August 2015.
Experience in dynamic environments, familiarity with aircraft operations, experience in congested airspace.

Employment History:

Dr. James Nabity (August 2018 – May 2019):
Characterizing the CO2 absorption of ionic liquids in a candidate life support system for the ISS.

Dr. Dale Lawrence (Spring 2018):
Reverse engineered CAM files in order to construct and perform initial checkout of DataHawk UAS aircraft.

NASA – SPHERES and Astrobee projects Summer Intern (Summer 2017)
Implemented sample robot to robot communication schemes in C++, using ROS, NASA's toolkits, and DDS communication protocol.

CU Boulder Office of IT – Linux System Administrator (Spring 2017)
Managed campus servers, built and installed various software and certificates as needed by server users.

Notable Projects

OTheRS (Senior Projects)*:*
A variable parameter test bed to test the concept of small thermal cameras monitoring satellite avionics. Lead Positions: Embedded software, firmware, PCB design, reference instrumentation design and uncertainty analysis.

SPACEJAM (Spacecraft Design)*:*
PDR level design for a probe to the Jovian moons. Lead Positions*:* Flight software concepts, radiation environment and effects.

Twin Sea Lion (Aircraft Design):

Concept aircraft for 10 passengers and cargo, with emphasis on good takeoff and landing characteristics for challenging fields.

Notable Classes Taken (with CU Boulder class numbers):

Senior Projects Series	*ASEN 4018, 4028*
Space Life Sciences	*ASEN 5016*
Spacecraft Design	*ASEN 5148*
Aircraft Design	*ASEN 4138*
Aerospace Propulsion	*ASEN 4013*
Thermodynamics and Aerodynamics	*ASEN 2002, 3111, 3113*
Aerospace Structures	*ASEN 3112*
Orbital Mechanics and Attitude Dynamics	*ASEN 3200*
Aircraft Dynamics	*ASEN 3128*
Electronics and Communication	*ASEN 3300*
Cybersecurity for a Converged World	CSCI 3403