

Benjamin R. Straw

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EDUCATION

- **University of Central Florida** Orlando, FL
Bachelor of Science in Computer Engineering; GPA: 3.16 *Fall 2016 – Spring 2021 (est.)*

EXPERIENCE

- **UCF's Center for Microgravity Research** Orlando, FL
Software Engineer *Spring 2018 – present*
 - Programmer for the Watchdog, Telemetry, and Control (WTC) system on SurfSat, a CubeSat launched September 2018 as part of ELaNa XVIII. Primarily responsible for implementing an SD card driver for data storage, as well as the overall software state machine. Assisted with defining and subsequently programming the communication layer between the WTC and the science module.
 - Refined the SurfSat WTC system for Q-PACE, a CubeSat scheduled for launch later in 2019 as part of ELaNa XX. Tasked primarily with adapting the state machine to the different hardware on Q-PACE and rewriting the communications layer between the WTC and the science module. Also implemented GPS data parsing and handling.
- **Students for the Exploration and Development of Space - UCF** Orlando, FL
President *Fall 2019 – Spring 2020*
 - Prepare and deliver both the weekly executive board meetings and the bi-weekly general body meetings.
 - Organizing opportunities for our club members to grow themselves personally and professionally through workshops, tours, guest speakers, projects, and social activities.
- **Intercollegiate Rocket Engineering Competition 2019** Orlando, FL
Electronics Team Director – SEDS-UCF *Fall 2018 – Summer 2019*
 - Directed the new electronics team, responsible for overseeing the design and implementation of every electrical component on the rocket, including power distribution, the flight computer, data acquisition from a sensor array, radio systems for telemetry to ground, and actuators for air brakes and fueling valves.
 - Personally responsible for the electrical schematic creation and PCB layout in KiCad, as well as designing the flight computer's software state machine and process flow.
 - Ensured everyone on the team had the tools and knowledge they needed to succeed. Coordinated with the other teams to ensure system compatibility. Created schedules for milestone completion and procedures manuals for development and integration.
- **Intercollegiate Rocket Engineering Competition 2018** Orlando, FL
Payload Team Member – SEDS-UCF *Fall 2017 – Summer 2018*
 - Reimplemented the functionality of the previous year's payload electronics entirely on a Raspberry Pi, and investigated an ultimately abandoned radio system for sending telemetry to ground.
- **Intercollegiate Rocket Engineering Competition 2017** Orlando, FL
Payload Team Member – SEDS-UCF *Fall 2016 – Summer 2017*
 - Developed Arduino system for logging to an SD card several variables collected from a sensor array, as well as processing the sensor data and deploying the microgravity experiment when the conditions are right. Interfaced with a Raspberry Pi to begin the recording of video when launch conditions were detected.

SKILLS

- **Proficient:** C and C++ programming languages. Windows and Linux-based systems. Communication and collaboration in team environments.
- **Familiar:** Java and Python programming languages. Electrical systems. Arduino. SolidWorks. KiCad. L^AT_EX.