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Matthew Cullen Self

Objective

Seeking full-time employment in Aerospace Engineering starting Summer 2018.

Education

B.S. **Aerospace Engineering Honors**, *May 2018*: The University of Texas at Austin, 3.87 GPA

Experience

Summer, 2017 **Satellite Guidance Intern**, *Planet*
Implemented efficient GPS software receiver for use in large-scale CubeSat constellation with robust signal verification. Planned, tested, and executed on-orbit tests of novel GPS capture techniques. Demonstrated proof-of-concept for next generation receiver architecture with flat-sat testing and integration. Investigated and minimized radio noise sources via hardware testing. Verified accuracy of existing GPS receiver by comparing produced solutions with orbital predictions and other ephemerides.

January, 2017 - Present **GNSS Research Assistant**, *UT Aerospace Engineering*
Investigate GPS spoofing in Black Sea. Coordinate ISS-borne atmospheric sensing experiment with several other research groups. Built and tested ground stations to implement a Dense Reference Network in Austin. Designed infrastructure based sensor system to augment driver assistance by fusing multiple-perspective data. Assisted in data collection, verification, and processing to verify GNSS receiver architecture.

August - December, 2016 **Orbital Debris Research Assistant**, *UT Aerospace Engineering*
Created tool to simulate optical observations of orbital debris. Implemented a novel numerical integration technique. Researched various probabilistic filters to attain space situational awareness. Optimized and rewrote software modeling tools.

Summer, 2015 & 2016 **Mission Site Manager**, *Faithbridge Chruch*
Planned student missions to underprivileged areas of Texas (ca. 250 students). Trained and managed subordinate Mission Leaders. Coordinated with several different organizations to employ large teams of students. Budgeted room and board for multiple teams over the course of a summer. Guided students through executing programming for young children. Responsible for student's health and safety.

Skills

Programming Languages: C, C++, Java, Javascript, Matlab, Mathematica, Python, Ruby
Software: Windows, Linux, Git, LaTeX, Microsoft Office Suite, Docker, Phabricator
Professional: Strong organizational and troubleshooting skills
Work Status: US Citizen

Accomplishments & Affiliations

2017 **Recipient**, *Victor Szebehely Endowed Scholarship*
2016 **Recipient**, *UT Aerospace External Advisory Committee Endowed Scholarship*
2015 **Recipient**, *Charles and Barbara Peck Endowed Scholarship*
2015-Present **Recipient**, *University Honors*
2014-Present **Member**, *Engineering Honors Program*
2014 **Recipient**, *Dick and Judy Perkins Scholarship*