

# 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, 3.89 GPA

## Experience

Summer, **Satellite Guidance Intern**, Planet

2017 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 **GNSS Research Assistant**, UT Aerospace Engineering

- December, Investigate GPS spoofing in Black Sea. Coordinate ISS-borne atmospheric sensing experiment with several  
2017 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 - **Orbital Debris Research Assistant**, UT Aerospace Engineering

December, Created tool to simulate optical observations of orbital debris. Implemented a novel numerical integration  
2016 technique. Researched various probabilistic filters to attain space situational awareness. Optimized and rewrote software modeling tools.

Summer, **Mission Site Manager**, Faithbridge Church

2015 & 2016 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, Java, Javascript, Matlab, Mathematica, Python, Ruby

**Software:** Windows, Linux, STK, Git, L<sup>A</sup>T<sub>E</sub>X, 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