# Gavin Martin

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## Education

**The University of Texas at Austin**
*B.S., Aerospace Engineering Honors*
*Concentration: Space Flight*
Expected Dec 2019 | GPA: 3.84

## Skills

**Languages:** Python • Java • Go • MATLAB • Bash
**Libraries:** NumPy • SciPy • Pandas • OpenCV • TensorFlow
**Technologies:** Linux • Git • Docker • Jenkins • AWS • LaTeX
**Interpersonal:** Public Speaking • Project Management

## Work Experience

**Raytheon *(Contracted to NASA JPL)***, **Software Systems Engineering Intern**, Remote ..... Apr 2019 - May 2019

**NASA Jet Propulsion Laboratory**, **Mission Planning Intern**, Pasadena, CA ..... May 2018 - Aug 2018

- Optimized Europa Clipper mission modeling and simulation software for speed, scalability, and reliability
- Automated mission simulation, downstream analysis, and data delivery using Jenkins and Docker
- Built dynamic, interactive 3D visualization tool for science instrument coverage maps on Europa's surface

**Texas Spacecraft Laboratory**, **Seeker Vision Project Manager**, Austin, TX ..... Oct 2017 - May 2018

- Designed computer vision system for NASA JSC's Seeker mission (launched April 2019 on Cygnus NG-11)
- Trained neural networks with TensorFlow to intelligently detect, recognize, and localize nearby vehicles in space
- Validated robust, high-speed performance on embedded systems via hardware-in-the-loop simulations

**Texas Spacecraft Laboratory**, **ARMADILLO Mission Manager**, Austin, TX ..... Mar 2017 - Nov 2017

- Constructed operations infrastructure to support the ARMADILLO CubeSat (launching Summer 2019 on STP-2)
- Integrated communication and project management platforms while scaling from 5 to 50+ engineers
- Spearheaded development of Python GUI to process and interpret downlinked spacecraft telemetry in real-time

**GE Aviation**, **Software Engineering Intern**, San Marcos, TX ..... May 2016 - Aug 2016

- Built custom enterprise resource planning software using Java's Swing framework
- Automated customer service reporting by integrating custom ERP software with the Apache POI API
- Value-stream mapped facility's repair station to identify areas for efficiency improvement

## Projects

**ADCS Simulator** – `bit.ly/adcs-simulator`

- Developed object-oriented simulation engine for spacecraft attitude determination and control systems
- Wrote research paper detailing models for dynamics, actuators, sensors, and control algorithms in simulator
- Tools: Python, NumPy, SciPy, Matplotlib, LaTeX

**Object Detection Models** – `bit.ly/detection-models`

- Developed library for easily deploying TensorFlow Object Detection API models and detecting objects in images
- Tools: Python, TensorFlow, Jupyter

**Rotor Control Service** – `bit.ly/rotor-control-service`

- Designed RESTful microservice for automated ground station tracking of overhead satellites
- Created Slack bot for notifying spacecraft operators of daily & imminent communications passes
- Tools: Golang, MongoDB, Docker Compose, Slack API

## Honors & Awards

**UT-Austin Engineering Honors Program** ..... 2015 - Present
**General Electric Above & Beyond Bronze Award** ..... 2016
**National Merit Scholar** ..... 2015
**4th Place | Public Forum Debate | National Speech and Debate Association National Tournament** ..... 2014