

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

NASA Jet Propulsion Laboratory, [Software Systems Engineering Intern](#), Pasadena, CA ... Jun 2019 - Aug 2019

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

- Collaborated in developing the JVM-based Merlin SDK for spacecraft activity planning and mission simulation
- Researched orbital geometry and GN&C models for implementation as multi-mission models in Merlin

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

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

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