David Del Grosso

Aerospace Engineer | david.delgrosso97@gmail.com
267-257-5691 | https://www.linkedin.com/in/daviddelgrosso97/
Arlington, VA | https://github.com/david-delgrosso

Profile

Aspiring Full Stack Software Developer with 3+ years of professional experience designing, implementing, and testing flight software solutions for satellite guidance, navigation, and controls challenges. Personal experience writing and deploying cloud-based web applications. Passionate about tool development and process automation.

Skills, Proficiencies, and Certifications

- **Languages** – Python, C, C++, Javascript, HTML, CSS, R, Matlab, VBA
- **Technologies** – AWS (EC2, S3, RDS, Elastic Beanstalk, Lambda), React, Django, PostgreSQL, Material-UI
- **Software** – VS Code, Visual Studio, Matlab, STK, Tableau, Qlik, R Studio, Excel, Mathematica
- **Certifications** – AWS Cloud Practitioner, IBM Full Stack Cloud Developer, STK 11 (Level 3)

Work Experience

GNC Engineer / Northrop Grumman Corporation, Dulles, VA — JUNE 2019 – PRESENT

- **ESPASat-L Product Line**
  - Implemented a range of GNC **flight software solutions** using **C**, including but not limited to navigation filters, position guidance, pointing algorithms, sensor interfacing, actuator control, measurement processing, and fault detection and correction
  - Performed modeling and simulation tasks using in-house simulation software and **C++**
  - Leveraged in-house scripting language to develop **functional, unit, and regression test** scenarios
  - Executed Monte carlo analysis to characterize spacecraft stability at various states, including target pointing modes, delta-v maneuvers, deployment, and rendezvous and proximity operations
  - Built a suite of **Matlab** post-processing tools used for **plotting and data analysis**
  - Developed a **Python** tool for automated simulation model configuration
  - Wrote over 100 pages of documentation detailing algorithm design, flight software implementation, and verification test results
- **Commercial Resupply Services (NASA)**
  - Designed and tested custom Python tools for real-time data visualization and analysis for use during mission operations, including relative orbit tracking and keep-out-zone monitoring while docking with the International Space Station

Projects — DEC 2022 – PRESENT

- **NBA Web Application**
  - Utilized Python and **Django** framework to develop and test a web application that displays information about the NBA, including team statistics and schedules, as well as score predictions made by machine learning models
  - Queried data from public API's to procure raw data, cleaned and transformed data to produce a training set, trained several machine learning models using Jupyter Notebooks, tuned model hyperparameters using grid searches and cross-fold validation, assessed model generalization error with several standard error metrics like RMSE, and deployed models to web application to generate score predictions for NBA games on a daily basis
  - Deployed as a cloud-based web application on AWS using Elastic Beanstalk, EC2, S3, and MySQL RDS
- **Grocery Store List**
  - Utilized **React** to build a simple web application that tracks a customizable grocery shopping list and recipe book
  - Deployed as a cloud-based web application on AWS using EC2 and S3

Education

M.S. Data Science / Eastern University, St. Davids, PA — GRADUATION DECEMBER 2022

- **GPA**: 4.0

B.S. Aerospace Engineering / Virginia Polytechnic Institute and State University, Blacksburg, VA — GRADUATION MAY 2019

- **GPA**: 3.6, **Honors**: Magna Cum Laude, **Minor**: Mathematics
- **Relevant classes**: CS 1114 Intro to Software Design, CS 2114 Software Design and Data Structures