Noah D. Prezant

noahprezant@gmail.com | 828.776.6240 | https://github.com/nprezant

Education:

North Carolina State University
Expected graduation May 2020
Aerospace Engineering Major
GPA: 4.0

Accomplishments
"Future of Space Flight" Panelist at NC Space Grant Symposium

Programming Languages: Python, C++, Matlab, Simulink, PyQt5, LaTeX, Excel VBA, Arduino, HTML/CSS/JS, Node.js
Software Fluency: SolidWorks, Catia HyperSizer, QGIS, Betaflight (Dabbled in: Femap, Ansys, Unity, SQL, Unix)
Related Skills: automatic control system design, composite lamination theory, orbital mechanics, aircraft stability, non-linear solvers, data visualization, machine learning, OOP, stress analysis, optimization algorithms

Projects:

- Planetary Orbits Visualization: https://nprezant.github.io/orbits/
  - Visualizes satellite orbits around the Earth
  - Backend API can be used to perform complex orbital calculations (such as computing chase maneuvers or calculating velocity trade-offs between various orbital maneuvers)
- Machine Learning (ML) integration with Genetic Algorithms: https://github.com/nprezant/GAlgorithm
  - A Python genetic algorithm that uses ML to cull the "child" population before the fitness function steps in
  - Will be combined with other methods for improving genetic algorithms and (perhaps) published
- Animal Counting Tool: https://github.com/nprezant/GameCounterPY
  - A PyQt5 application to assist users in processing aerial photographs
  - Provides tools for tracking and marking items of interest across large photographic data sets
- Composite Stress Analysis Tool: https://github.com/nprezant/composites
  - A Python Tkinter GUI that can design various materials (based off fiber/matrix properties) and compute effective ABD matrices of simulated lay-ups.
- Drone Construction:
  - 1 custom freestyle drone (5" quadcopter), 3 custom fixed-wing drones (dual propeller, 2m wingspan)
  - Incorporated GPS, first person video (FPV), analog telemetry, and autonomous missions with Mission Planner

Professional Experience:

Collier Research Center (HyperSizer) | Newport News, VA — May 2018-Present
Engineering Intern/Contractor, 40 hours/week (varies)

- Utilized HyperSizer to compute stress analyses on aircraft and rocket structures
- Developed extensive Excel VBA to manage/automate client's existing stress reporting process
- Mentored two other interns and managed their projects
- Used Adobe Illustrator, working with in-house designer to revamp the application interface
- Coded stress analysis methods as C++ packages to "plug-in" to the HyperSizer application

Honda Aircraft Company (HACI) | Greensboro, NC — May 2017-December 2018
Engineering Intern, 40+ hours/week

- Designed custom stress test rigging in Catia, executed stress tests on metals and composites
- Developed Python/Matlab code to evaluate various in-house composite repair methods
- Created SQL query tool for engineers to access production line error reports through Excel
- Wrote troubleshooting manual for flight control system production issues

On campus activities: **Founder and President of Wolf Westies, a west coast swing dance club**: leveraged community connections to develop a partnership with a local dance venue to provide substantial club member discounts, researched and collaborated with campus leaders to craft the organization's constitution, created yearly budget, set fundraising goals, managed club finances, developed lesson plans, and taught weekly dance classes for two years