Luke Kaufman

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Education

University of Florida, *Cum Laude* May 2023

- Bachelor of Science in Aerospace Engineering
- Honors Program | 3.95/4.00 GPA

Certifications

- Microsoft Azure AI Fundamentals: AI-900 Certificate
- CS50 Certificate in Artificial Intelligence and Machine Learning in Python by Edx
- Certified SOLIDWORKS Associate in Mechanical design (CSWA)

Relevant Experience

University of Florida Election Data Science Lab, *Data Researcher* Jan-May 2023

- Assisted graduate research by writing Python scripts to perform data integration and match lists of election observer names for North Carolina counties with their voterfile records.
- Extracted file metadata from Harvard Dataverse's API in order to establish a local data repository.
- Designed an analysis in R to examine demographic disparities in the voluntary submission of contact info within the voterfile, considering age, county, and registered party in North Carolina.

Autonomous Vehicles and Controls Lab Jan-May 2023

- Oversaw a small team in developing a Python-based autonomous vehicle capable of following a predetermined GPS path.
- Utilized Robot Operating System within a Linux virtual machine to interface with a remote vehicle.
- Implemented a PID controller using LiDAR input to avoid obstacles and round corners autonomously.

Pratt & Whitney, *Structural Engineering Intern* May-Aug 2022

- Performed a modal analysis study in Ansys on aircraft fan blades to understand the effect of notches on stress concentration factor across different bending modes.
- Worked with Advanced Engine Program to track crack propagation direction both deterministically and probabilistically.
- Monitored remote engine tests for mechanical resonance and unexpected flutter.

Other Work: Swamp Launch Rocket Design Team (2021-2022); Merrill Lynch Wealth Management, Client Associate Intern (2018)

Projects

- Implemented a Tic Tac Toe AI using Minimax Algorithm with Alpha-Beta pruning (2023).
- Designed a solid visualization program which could read in CAD files and graphically display their information based on a Boundary-representation data structure defined in Java (2022).
- Coded a MATLAB image processing program to identify values of a given 2048 board and simulate gameplay (2020).

Relevant Skills

- Engineering Softwares: Solidworks, AutoCAD, Ansys, MATLAB
- Programming Languages: Java, Python, C++, SQL, R
- Other: Linux Environment, Robot Operating System (ROS), Microsoft Office