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

CS50's Introduction to AI with Python Certificate Spring 2023

- Online course administered by HarvardX
- Encompassed machine learning, natural language processing, and adversarial search algorithms

Relevant Experience

University of Florida Election Lab, *Undergraduate Researcher* Jan 2023-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 voter file records.
- Extracted file metadata from Harvard Dataverse's API in order to establish a local data repository.

Autonomous Vehicles and Controls Lab Jan 2023-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 environment 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 2022-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); AeroGators Design Team, structural analysis (2020); Merrill Lynch Wealth Management, Client Associate Intern (2018)

Relevant Skills

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

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).