Jaxton Monterey Willman

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EDUCATION

Bachelor of Science in Mechanical Engineering — May 2022
Minor in Computer Science and Information — GPA: 3.44
University of Florida, Gainesville, Florida — Cum Laude

SKILLS

- Software: Certified SolidWorks Associate, Microsoft Office Specialist, GitHub, OpenSim, Simerics-MP+ (formerly Pumplinx), SIMULIA Abaqus FEA, Granta
- Coding: MATLAB, C++, C, Python, Java, Assembly (LEGv8), HTML, CSS, Yacc/Lex
- Machining: Lathes, mills, drill presses, tapping, reaming, band saws, table saws, grinders, brake presses, MIG and TIG welding, spot welding

RESEARCH

Saxena Lab for Neural Control — 2021 – 2022
- Working on system identification and control of anatomically accurate biomechanical human limb models
- Investigating neurological disorders in a model of the sensorimotor control system
- Developing scripts to run MATLAB and OpenSim code on the UF HiPerGator supercomputer

University Scholars Program — 2021 – 2022
- 1 of 200 students out of 60 majors awarded the UF University Scholars Program scholarship for undergraduate research
- Presented my research to more than 400 other undergraduate researchers and professors at the UF Research Symposium

Neuromatch 4.0 Conference — December 2021
- Selected to present my research on system identification and control of anatomically accurate biomechanical human limb models

UF NVIDIA AI for Science Bootcamp — October 2021
- Placed first out of 13 teams in both deep learning hyperparameter optimization challenges

EXPERIENCES

Thermal Sciences and Design Lab — 2021 – 2022
- Mentored students in the laboratory with experiments, data analysis, and report writing
- Graded and provided feedback on student reports to improve engineering communication skills
- Worked with the professor to revise the course documents and website
- Held Cummins diesel engine teardown sessions for students and faculty training

Department of Mechanical and Aerospace Engineering — 2021 – 2022
- Peer advisor for over 1800+ students

- Assisted students with course selection, scheduling, and career planning using my experience
- Chosen specially to conduct the behavioral interview to hire Advisor 1 candidates for the department

Mechanical Engineering Capstone Project 2021 – 2022

- Part of eight-member team tasked with creating a heliostat capitalizing on small size innovations for an industry partner
- Created a company and filed an IP disclosure with the University of Florida
- Successfully designed a small size heliostat under $100 meeting DOE guidelines
- Leveraged decision matrices to choose an optimal design to meet customer constraints

Design and Manufacturing Laboratory Spring 2020

- Designed concepts for a robot to manipulate balls from a tree into a bucket while navigating a course
- Numerically compared team member concepts with decision matrices to validate design choices
- Modeled robot subassemblies and off-the-shelf parts in SolidWorks to create a dynamically moving robot
- Created drawings with proper dimensional tolerancing, GD&T and manufacturing notes
- Manufactured and assembled robot for competition

UF Solar Gators 2018 – 2020

- Designed the chassis in SolidWorks weldments for manufacturing with VR3
- Reduced the weight of critical suspension components with topology optimization
- Integrated new solar car controls into an improved version of the steering wheel
- Coordinated the effort to enhance solar car system communications with CAN 2.0b and STM MCU’s
- Orchestrated new member retention program with custom mini-engineering projects

UF Gator Game Jam July 2021

- Team had 48 hours to develop a game from scratch
- Designed core gameplay mechanics and implemented scripting and animations in Unity

Kyoto University Japan – Study Abroad Summer 2022

- Collaborated with Kyoto University students on engineering topics
- Learned performant programming in Python
- Explored cross-cultural design