# Jaxton Monterey Willman

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## EDUCATION

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

**Computer Science Study Abroad** — Summer 2022
Kyoto University, Kyoto, Japan

## SKILLS

- Software: Certified SolidWorks (CAD) Associate, Microsoft Office, GitHub, OpenSim, NI LabVIEW VI, 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
- Worked on system identification and control of anatomically accurate biomechanical human limb models
- Investigated neurological disorders in a model of the sensorimotor control system
- Developed 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 a 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 and managed the effort to enhance solar car system communications with CAN 2.0b and STM MCUs
- Orchestrated new member retention program with custom mini-engineering projects

**UF Gator Game Jam** July 2021

- Team had 39 hours to focus on the art, design, and development of a game
- Designed core gameplay mechanics and implemented scripting and animations in Unity
- Implemented project management and revision tracking with Trello and GitHub

**Kyoto University Japan – Study Abroad** Summer 2022

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