Brandon Woodward

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EDUCATION

Carnegie Mellon University Pittsburgh, PA

Master's Mechanical Engineering and Artificial Intelligence Graduation Date December 2024

- Coursework: Robot Dynamics and Analysis, Modern Control Theory, Machine Learning for Engineers

Georgia Institute of Technology Atlanta, GA

Bachelor's Mechanical Engineerings Graduation Date December 2022

- Minor in Robotics with coursework in machine learning, robotics, and controls

SKILLS

Manufacturing: Band Saw, Miter Saw, Dremel, CNC Router, Laser Cutter, 3D Printer, Plasma Cutter, Manual Mill and Lathe
Hardware: RasPi, Arduino, Up2 Computer, T-motors, Futek load cells, CAN and Serial Communication
Programming Languages: Java, Python, C++, C, C#, MATLAB, SQL
Software: GIT, Gradle, Solidworks, Inkscape, Cura, Unity, OnShape, ROS, Byte decoding, Bitwise operations, Wireshark, Multithreading, DynamoDB, Postgres, TesorFlow
BILINGUAL: Native Spanish and English speaker

INTERNSHIP EXPERIENCE

Area I / Anduril Kennesaw, GA

Software Engineering Intern May 2022 - August 2022

- Tested data transmission between proprietary hardware and software via byte decoding, ensuring data integrity
- Developed automated testing systems to verify hardware in C++, improving efficiency and accuracy
- Created a GUI to control and test payloads using PyQT, streamlining payload testing processes

Ihmc Robotics Pensacola, FL

Software Integration Intern May 2021 - August 2021

- Developed controls infrastructure in Java for a load bearing lower body exoskeleton, allowing for basic locomotion
- Calibrated Futek load cells, T-motors, and more, ensuring consistency in force and torque readings
- Generated biological knee and ankle joint torque trajectories via Java FX and lab recorded data
- Created 3D models of robots in RViz using ROS and urdf files, allowing for accurate simulations

RESEARCH EXPERIENCE

Georgia Tech EPIC Lab Atlanta, GA

Undergraduate Researcher August 2021 - May 2022

- Tuned LABView controls algorithm for a lower back exoskeleton to be applied in live tests
- Design and assembly of exoskeleton hardware to reduce mass by along with running testing procedures

Georgia Tech LIDAR Lab Atlanta, GA

Undergraduate Researcher August 2020 - May 2021

- Designed tarsal segments in SOLIDWorks to attach to a foot on Cassie, a bipedal robot, improving stability
- Redesigned and manufacturing new prototypes based on test results over several iterations

LEADERSHIP

Master's Representative, MechE Graduate Student Organization - Pittsburgh, PA August 2023 - Present

- Voicing concerns of master's students to the organization, ensuring representation

Executive Officer, Yellow Jacket Archery Club - Atlanta, GA January 2021 - December 2022

- President: Lead fellow officers to maintain stability and improve conditions May 2022 - December 2022
- Equipment Manager: Restructured and designed new storage facility May 2021 - May 2022
- Historian: Documented club activities and photographed practices January 2021 - May 2021
- Coached as a level 2 instructor and level 1 judge under USA Archery