Graduate Research Assistant

JORDY A. LARREA RODRIGUEZ

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Summary

Senior, first-generation BS/MS ECE robotics student at the University of Utah interested in medical applications of robots.

Education

B.S./M.S. Computer & Electrical Engineering | University of Utah
Salt Lake City, UT | August 2019 - PRESENT | GPA: 3.45

Introduction to Machine Learning | Stanford University
Coursera | August 2021 - December 2021

Work Experience

Graduate Research Assistant | Lenz Research Group
U of U Health University Orthopaedic Center, Salt Lake City, UT | August 2023 - PRESENT

Undergraduate Research Assistant | Lenz Research Group
U of U Health University Orthopaedic Center, Salt Lake City, UT | May 2022 - August 2023

- Processed and statistically analyzed 6D force transducer data across multiple trials and specimens.
- Developed real-time LabVIEW GUI for interfacing AMTI force transducer signal conditioners via serial port
- Developed python 3 interface for AMTI Gen 5 signal conditioner SDK.
- Researched Model Predictive Controller and Physics Informed Neural Networks.
- Authored and co-authored various conference abstracts and posters.

Apprentice Finisher | B&L Concrete
West Jordan, UT | SUMMERS 2016, 2017, 2020, and 2021

- Used/Operated skid-steer loader, hand tools and power tools to work with concrete.

Extra-Curriculars

- Treasurer of the Society of Professional Hispanic Engineers chapter at the University of Utah. August 2021 - March 2023
- Treasurer of Somos Dreamers at the University of Utah. May 2021 - May 2023
- Student member of IEEE and Utah's Data Science Club. August 2020 - PRESENT
- Volunteer at Maliheh Free Clinic (Spanish to English Medical Interpreter). August 2022 - April 2023

Skills

- Proficient with CPP, C, Python 3, MATLAB, LabVIEW, and R
- Proficient with Linux and Windows systems
- Proficient with ROS1 and ROS2 frameworks
- Proficient with Docker Engine
- Proficient in Spanish and English (professional interpretation)

Awards

- Larry & Gail Miller Enrichment Scholarship Recipient (Full Ride Scholarship) May 2020 - December 2023
- University of Utah Summer Program for Undergraduate Research Recipient May 2022 - August 2022
- University of Utah Undergraduate Research Opportunity Program Recipient August 2022 - April 2023

Personal and School Projects

- Virtual hand controlled in real time with PID control with state estimation by deep neural network binary inference on a feature set generated using only 1 channel of rectified surface electromyography (5 features).
- Designed and implemented a state machine loop for a SLAM line-following robot that integrated an SVM to classify blocks: the model was trained on input from color and hall effect sensors, and a servo encoder for size distinction. My team, *Beans and Rice*, won first place among 4 other groups.
- Designed, programmed and constructed/soldered a robot arm prototype on the arduino platform from four servos, a stepper motor, and other electronic components (diodes, buttons, etc).
- Personal Website written by me using HTML, JS, and CSS. (myWebsite)