Anthony Camarillo

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OBJECTIVE:

Graduate robotics student with a background in mechanical engineering, applied mathematics, and software development. Eager to learn and contribute to innovative engineering solutions in the field of control and robotics.

SKILLS:

Programming Languages: C++, MATLAB, Python, Rust, SQL
Software: AutoCAD, Fusion360, ROS, SolidWorks
Simulation: CoppeliaSim, MuJoCo, Simulink
Developer Tools: Docker, GDB, Git, Nix
Hardware: Arduino, ESP32

EDUCATION:

California State University, Long Beach
Masters of Science., Mechanical Engineering, Control and Robotics — Expected Graduation: December 2025
Bachelors of Science., Mechanical Engineering, Minor: Applied Mathematics — December 2019

PROJECTS:

Trajectory Planning of Robotic Manipulators - *PACK Lab, CSULB* — September 2024 - Present
Technologies: MuJoCo, Python

- Designing simulations of robotic manipulators to analyze different control algorithm effects on trajectory generartion.
- Researching implementations of reinforcement learning for trajectory planning to improve adaptability of manipulators in environments with obstacles.

Control Of Robotic Manipulator - *Personal Project* — June 2024 - August 2024
https://github.com/a-camarillo/HiWonder-Max-Arm
Technologies: ESP32, C++

- Leveraged a commercial 4-DOF robotic manipulator to study physical applications of inverse kinematics, increasing knowledge in control algorithms for robotics.
- Developed algorithms in C++ to enable both manual and automonous control of the manipulator, integrating various sensors, allowing the manipulator to perform pick and place tasks.

Servo Motor Driver - *Personal Project* — June 2024
https://github.com.com/a-camarillo/embedded-rust/tree/main/esp32c6-test/servo-motor
Technologies: ESP32C6, SG90 Servo Motor, Rust, esp-hal

- Programmed a custom module for the ESP32C6 microcontroller, allowing the microcontroller to communicate with and operate an SG90 servo motor.
- Integrated existing ESP library for configuring onboard timers and generating pulse-width modulation signals to control motor position.

ADDITIONAL EXPERIENCE:

Emergency Rental Assistance Case Manager - *Robert Half* — September 2020 - December 2022

- Communicated with applicants of an Emergency Rental Assistance Program to ensure they met program requirements, providing over one million dollars of rent and utility assistance.
- Collected and organized sensitive documents from clients to simultaneously process an average of 20 cases per week, guaranteeing a constant flow of applicants receiving assistance.