

Anthony Camarillo

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EDUCATION:

California State University, Long Beach(CSULB)

GPA: 3.5

Masters of Science., Mechanical Engineering, Dynamics and Control

Expected Graduation: December 2025

Bachelors of Science., Mechanical Engineering, Minor: Applied Mathematics

December 2019

Relevant Coursework: Modeling and Analysis of Dynamic Systems, Modern Control of Dynamic Systems, Robot Modeling and Control

RESEARCH EXPERIENCE:

P.A.C.K. Lab, CSULB - Student Research Member

September 2024 - Present

- Developed Python scripts to train reinforcement learning agents and process and evaluate the results.
- Composed training documentation on simulation software with detailed explanations and examples for replicability.
- Researching implementations of reinforcement learning to find the optimal path for multiple manipulators in environments with obstacles.
- Developing environments with PettingZoo to test reinforcement learning algorithms and simulating training in MuJoCo.

PROJECTS:

Model Reference Adaptive Controller For Inverted Pendulum

November 2024

- Implemented a modified Model Reference Adaptive Controller(MRAC) for control of an inverted pendulum system, improving the system's response to input and disturbances.
- Benchmarked implemented controller performance against traditional MRAC and PID controllers through simulations in MATLAB/Simulink and presented results.

Controller Design for Half Quadcopter System

November 2024

- Developed a model for a half quadcopter with MATLAB's System Identification Toolbox based on measurements of the real-world system.
- Designed PID, pole placement, and LQR controllers for controlling the voltage, pitch, and yaw angle of the half quadcopter to stabilize the system output according to design criteria.
- Visualized and reported the performance of the half quadcopter for each controller assessing the system's response to various reference inputs.

ADDITIONAL EXPERIENCE:

Robert Half - Emergency Rental Assistance Case Manager

September 2020 - December 2022

- Communicated with applicants of an Emergency Rental Assistance Program to collect necessary documents for processing their application, providing over one million dollars of rent and utility assistance.
- Collaborated with team members to review and verify each application was processed correctly, ensuring quality checks before submission for approval.
- Trained both new and current peers on the application process workflow while staying updated on procedural changes.

SKILLS:

Programming: C++, MATLAB, Python, SQL, Git

Simulation: MuJoCo, Simulink

Software: AutoCAD, Fusion360, ROS, SolidWorks, MS Excel

Hardware: Arduino, ESP32