

Aaron Tran

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EDUCATION

University of Michigan

*Candidate for Master of Science in **Robotics***

GPA: 4.00/4.00

Coursework: Linear Systems Theory, Linear Feedback Systems, Robot Learning for Planning and Control, Continuous Optimization Methods, Programming for Robotics, Math for Robotics

California Polytechnic State University, San Luis Obispo

*Bachelor of Science in **Mechanical Engineering**, concentration in **Mechatronics***

GPA: 3.94/4.00

Ann Arbor, MI

April 2024

San Luis Obispo, CA

March 2022

SKILLS

Programming Languages: C++, Python, MATLAB

Frameworks: ROS2, lcm, MoveIt, Klamp't, PyTorch, OpenCV, NumPy, Jax, Carla, RTOS

Hardware: Arduino, STM32, Raspberry Pi, UART

Other: Linux, Git, Docker

WORK EXPERIENCE

EverestLabs.ai

Robotics Intern

Fremont, CA

May 2023 – August 2023

- Develop robot grasp detection model, optimizing for minimal Type I and Type II error
- Generate pressure dataset and design/build associated software, hardware to support data collection and labeling
- Develop ROS2 pipeline for online brand detection and data storage

Winslow Automation

Automation Engineering Intern

Milpitas, CA

May 2022 – August 2022

- Write ladder logic for PLC to automate part manufacturing process
- Collaborate with quality engineers to troubleshoot manufacturing issues
- Rapidly prototype visual inspection module for part defect detection

Lawrence Livermore National Laboratories

Defense Technologies and Engineering Division Intern

Livermore, CA

June 2021 – October 2021

- Collaborate with team to design and build test diagnostic assembly fixture
- Validate and sign off on drawings for high precision tooling
- Perform stress analysis to validate safety of lift fixture

PROJECT EXPERIENCE

Real-time Motion for Eye Imaging Robot – UMich Image Guided Medical Robotics Lab

September 2023 to Present

Goal: Design motion planning algorithm for collision free tracking using a robot arm

- Write and benchmark multiple motion planning algorithms considering dynamic and obstacle dense environments
- Integrate motion planners ensuring real time performance

Hydraulically Powered Exo – UCSF BioRobotics

May 2023 to August 2023

Goal: Design an exo that can be used under strong magnetic fields to allow for brain signal analysis during use

- Build data collection and analysis pipeline with Arduino and Python
- Implement online admittance controller on Arduino MEGA

Autonomous Differential Wheel Robot – Student Team Project

January 2023 to Present

Goal: Program a differential wheel robot to autonomously navigate a maze

- Design and implement cascade PID control loop for waypoint following
- Implement particle filter and occupancy grid mapping using log odds for simultaneous localization and mapping
- Write A* path planning algorithm for global path planning