LUISA CHIU

San Francisco, CA | (415) 819-7248 | luisachiu1@gmail.com | https://luisaschiu.github.io/

EDUCATION

California Polytechnic State University, San Luis Obispo, CA — Expected Graduation: June 2024

- Bachelor's and Master's Degree in Mechanical Engineering, Concentration in Mechatronics, 3.82 GPA
- Minor in Computer Science

PROJECTS

Master's Thesis: Dynamic Maze Puzzle Navigation using Deep Reinforcement Learning — Sep 2023 – present

- Conduct research on autonomous mobile robot navigation and deep reinforcement learning algorithms

Automated Produce Slicer Machine — Sep 2022 – Dec 2022

- Developed C++ code for microcontroller to interact with motors, sensors, and limit switches
- Ensured accurate timing execution through implementation of a real-time operating system using FreeRTOS
- Collaborated on a PCB (printed circuit board) designed for project application using Autodesk Eagle
- Manufactured project components using a plasma cutter, angle grinder, and other woodworking tools
- Designed 3D printed parts through CAD modeling with emphasis in tolerancing for clearance and press fits

Interdisciplinary Senior Project: Bike to the Future — Sep 2021 – June 2022

- Designed sensor feedback system with a focus on usability and functionality for a visually impaired biker
- Created and iterated 3D-CAD models of project assembly containing over 20 parts using SolidWorks
- Produced a comprehensive instructional and informative video to guide customer in product assembly and use

Ball Balancing Platform — Sep 2021 – Dec 2021

- Simulated closed-loop motor speed control using MATLAB and Simulink
- Developed Python code for a microcontroller to interact with motors, IMUs, and resistive touch panels
- Designed the multitasking program structure through implementation of task diagrams and finite state machines

SLO Hacks Lite 2021 Hackathon: Project CoNET — Jan 2021

- Led and facilitated meetings by communicating goals and delegating tasks to optimize members' skills
- Designed and built a minigame prototype using Arduino, circuit components, and at-home resources
- Completed in under 24 hours through virtual collaboration with a multidisciplinary team, earning 2nd place

EXPERIENCE

Applications Engineering Intern, **Yaskawa America, Inc. – Drives and Motion Division** — July 2022 – Sep 2023

- Developed function blocks for interpolation based on path percentage using SLERP and linear interpolation
- Tested function blocks by developing a path calculation function for a pick and place robot application
- Created and executed an SFC (Sequential Function Chart) program to interact with a 6-DOF robot arm
- Documented differences between local and remote groups by testing function blocks and auditing code
- Programmed PLC's (Programmable Logic Controllers) using MotionWorksIEC to develop test case projects
- Assembled test stand for controller prototype using motors, servo drivers, and other electronic components

Instructional Student Assistant, **Cal Poly SLO Mechanical Engineering Department** — Sep 2020 – Dec 2022

- Evaluated homework assignments for over 100 students for ME 236: Measurement and Data Analysis
- Coordinated with instructor to improve teaching and incorporate feedback on student performance

Intern, **San Francisco Public Utilities Commission** — Summer 2018, 2019, 2021

- Assisted with project management plans and closeout packages for the Sewer System Improvement Program
- Analyzed and inspected drafted layouts and as-builts of the Calaveras Dam Replacement Project

ACTIVITIES

Member, **Society of Women Engineers** — Sep 2018 – present

Member, **Cal Poly ASI Intramural Sports Teams (volleyball, flag football)** — Sep 2018 – June 2023

Orientation Leader, **Cal Poly SLO New Students and Transitions: Week of Welcome** — Jan 2021 – Sep 2021

SKILLS

Programs: SolidWorks, MATLAB (Simulink), Autodesk Eagle, Fusion 360, AutoCAD, Microsoft Office, Arduino

Programming Languages: Python, C++, C, Java

Other: Drafting (GD&T), Measurement & Data Analysis, Human-Centered Design, Prototyping, Mechanism Design