DYLAN RUIZ

Mechanical Engineer | Mechatronics Engineer

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OBJECTIVE: I am seeking an early career position that relates to the design of electromechanical systems. I have a proven record as a detail-oriented and creative engineer with a demonstrated interest in the design, control and implementations of mechatronic systems.

EDUCATION

2022-2023 **M.S. Mechanical Engineering**, California Polytechnic State University, SLO.

2018-2022 **B.S. Mechanical Engineering / Mechatronics Concentration**, California Polytechnic State University, SLO.
Passed FE Exam

SKILLS

Programming	C/C++, Python, MATLAB/Simulink, R
Serial Communication	UART, I2C, SPI, Ethernet
CAD	Solidworks, Fusion 360, ADAMS, EAGLE, Autodesk
Fabrication	PCB Design & Assembly, Design for Manufacturing and Assembly
Technical Writing	Microsoft Office Suite (Word, Excel, PowerPoint)

EXPERIENCE

March 2023 – June 2023 — **Teaching Associate, Cal Poly SLO, CA**
- > Instructed two sections of Intermediate Dynamics Labs
- > Introduced students to MATLAB and Simulink software. Simulated dynamic systems using different methods through MATLAB.

September 2022 – December 2022 — **"Chess Bot" Term Project for ME 507, Cal Poly SLO, CA**
- > Designed and fabricated electromechanical system; developed control algorithm in C
- > Designed custom PCB with ESP32 to interface with several sensors and motors.
- > Wrote drivers in C to interface with stepper motors, linear actuator, limit switches and infrared reflective sensor.
- > Developed kinematics of H-Bot design and wrote kinematics class in C that converted position coordinates to motor speeds and steps.
- > Developed both Task Diagrams and Finite State Machines for control algorithm

June 2021 – September 2022 — **Mechanical Engineer Intern, BTC Power, Santa Ana**
- > Developed and Executed Quality and Performance Testing Protocol for EV Level 2 AC Chargers
- > Designed and built testing load bank to simulate a charging car.
- > Calibrated and recorded energy calculations to be accurate to 0.5% as measured by a power analyzer.
- > Tested and troubleshooted new WOLF board design, isolating the potential problems.
- > Sourced alternative components for prototyping of WOLF board.

September 2021 – June 2022 — **Team Lead, MTB DAQ Senior Project for Dr. Joseph Mello, Cal Poly SLO, CA**
- > Managed a team of undergraduates to design, manufacture, and develop a data acquisition system for mountain bikes to extract optimal suspension settings.
- > Design custom PCB to collect data from two external accelerometers connected via ethernet and gyroscope, store the data on an SD card.
- > Wrote MATLAB code to process data stored on SD card and plot relevant data on graphs.