

Parsa Rezaei

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Education

California Polytechnic State University, Pomona

MSc. Electrical Engineering

Aug '24 – Present

BSc. Computer Engineering

Aug '21 – May '24

California State University, Sacramento

BSc. Computer Engineering

Aug '19 – May '21

Work Experience

Teaching Associate

Jan '25 – Present

California State Polytechnic University, Pomona

- **Created AC/DC lab curriculum**, boosting student engagement and understanding.
- **Taught 25+ student labs** on practical circuit analysis.

Lab Manager

Jan '24 – Present

Reconfigurable Space Computing Lab

- **15 research projects** on advanced drone and computing technologies.
- Oversaw a **60%** increase in lab membership and *3 NASA MINDS finalists*.

Research Assistant

Oct '23 – Present

Collaboration with NSWC Corona

- **Designed NLP control protocols** for autonomous drones and rovers (*ArduPilot, PX4, Mavlink*).
- **Integrated BERT frameworks** to improve command accuracy, enhancing mission responsiveness.

Projects

Electric Longboard

Fall '19

- Converted a conventional longboard into an electric board.
- Utilized a Li-ion battery, single drive motor, and a VESC Controller.

Teensy Light Saber

Summer '20

- Developed a lightsaber using a Teensy microcontroller with WLED
- Utilized a prop shield for enhanced functionality, triggering sound effects via IMU data.

2619: Oblivion – [AI-Generated Book](#)

Jun '21

- Researched AI capabilities by using GPT-Neo to generate narrative content.
- Studied model collapse using model outputs as inputs.

Skills

- **Programming:** Python, C/++/#, Java, MATLAB, L^AT_EX, SystemVerilog/Verilog
- **Frameworks:** Docker, Kubernetes, WebSockets, Linux Networking, MicroBlaze, Windows Server
- **Hardware:** FPGA, 3D Printers, CNCs, Software Defined Radios
- **Design:** Solidworks, AutoCAD, Adobe InDesign/Photoshop/Premiere Pro

Relevant Coursework

Mathematics:

CSUS: MATH 30/31: Calculus I & II; MATH 45: Differential Equations

CPP: MATH 2140: Calculus III; MAT 2240: Linear Algebra; ECE 5110: Numerical Modeling

Digital Systems & Microcontrollers:

CPP: ECE 3300: Digital Circuit Design; ECE 3301: Introduction to Microcontrollers; ECE 4300: Computer Architecture; ECE 4301: Cryptographic Algorithms; ECE 4305: Advanced Digital Design

Software & Programming:

CPP: ECE 1310: C for Engineers; ECE 2310: Object-Oriented Programming; ECE 3310: Data Structures and Algorithms; ECE 4310: Operating Systems for Embedded Applications

CSUS: CSC 15/20: Programming Concepts & Methodologies I/II; CSC 28: Discrete Structures; CSC 60: Introduction to System Programming (Unix)

Control Systems & Artificial Intelligence:

CPP: ECE 3709: Control Systems; ECE 4317: Intelligence Systems; ECE 4715: Machine Learning; ECE 4719: Advanced Control Systems

Manufacturing & CAD:

CSUS: ENGR 6: Engineering Graphics + CADD; ME 37: Manufacturing Processes (Shop Certification)

RSCL Projects

Transformer Drone

Aug '23 – May '25

- Led an interdisciplinary team to develop a transformer drone with variable arm configurations.
- Integrated servo transformation mechanisms for adaptable UAV performance.
- Presented to industry professionals at the CPP Engineering Showcase 2024.

Aerial Drone Docking

Sep '23 – Present

- Developing a mid-air drone docking system utilizing an infrared positioning system.
- Enabling power/data transfer while in flight via a Kubernetes-managed distributed system.

Turbine-Powered Quadcopter

May '24 – Present

- Quadcopter powered by turbine engines to enhance flight endurance and efficiency.
- Integrating advanced propulsion and control systems.

Submarine Drone

Sep '24 – Present

- Submersible UAV capable of navigating hybrid terrains.
- Utilizing autonomous mission planning for underwater exploration.

Reconfigurable Flight System

Sep '24 – Present

- Flight controller based on a PYNQ Z2 FPGA board with integrated sensors and GPS.
- Designing an FPGA-based ESC for redundant, scalable control.

Additional Work Experience

IT Intern

May '21 – May '24
Keysight Technologies

- **Automated IT workflows**, reducing technician *MTTx* by over **25%**.
- Deployed **100+ automations** for data-driven decision-making across **25,000+** endpoints.

IT Consultant

Oct '19 – Jun '21
California State University, Sacramento

- Implemented an **automated deployment** process, boosting operational efficiency.
- Upgraded administrative infrastructure utilizing Active Directory and SCCM.