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*

Skills

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

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.

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.

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 sensors and GPS.
– FPGA-based ESC for redundant, scalable control.

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.

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.

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.