Ramaditya Kotha

Valencia, CA | 661-425-8663 | adi.k394@yahoo.com | US Citizen

Education

University of California, Los Angeles December 2025
B.S. in Electrical Engineering GPA: 3.95/4.0

- **Relevant Coursework:** Semiconductor Physics, Semiconductor Device Design, Systems and Signals, Principles of Feedback Control, Data Science, **IP(**Applied Numerical Computing, Computer Vision**)**

Work Experience

Digikey June 2024 - Present
Technical Marketing Engineering Intern Thief River Falls, MN

- Engineered 4 technical demonstrations to demonstrate capability of new electronic components to customers.
- Designed, programmed, and trained a TPU accelerated object detection neural network for a robot to locate and transport packages in a simulated industrial setting. Used Linux-based ARM cortex micro controllers along with OpenCV and Google's Mediapipe developer packages.
- Designed a low-cost data-logging tote with ATMEL micro controllers to monitor g-forces and high-voltage static potential on factory lines, reducing rejected and wasted inventory.

UCLA Engineering 96: Underwater Robotics April 2023 – Present
Undergraduate Group Teacher Los Angeles, CA

- Created a curriculum to teach a class of 30 students on designing underwater robots with Altium, Solidworks, and embedded C++ software.
- Cut manufacturing time in half by introducing new techniques such as plasma cutting, waterjet, and CNC routing.

Extracurricular Activities

UCLA Baja SAE
Technical Director May 2024 - Present

- Supervised and coordinated a group of 70 multi-disciplinary engineers, laying out high-level design goals and strategy for the design and manufacturing of an off-road vehicle.
- Collected and analyzed over 30 million data points using Python to optimize controls systems, vehicle transmission, and powertrain design.
- Redesigned vehicle transmission in Solidworks allowing for 5% reduction in vehicle size.

Controls Hardware PE May 2023 - May 2024

- Designed the embedded hardware (ARM Cortex MCUs) and circuitry to electronically control and collect data for an automatic off-road transmission using Altium Designer and embedded C++ programming.
- Designed and brought-up a PCB by simulating and testing running conditions with function generators, spectrum analyzers, oscilloscopes and logic analyzers, leading to 32% improvement in system uptime since previous year.
- Re-designed algorithm and reading disk for an engine RPM sensor using signal processing principles, eliminating sensor failures and improving sensor resolution by 13%, with 50% reduction in filter phase lag.
- Implemented a feed-forward throttle sensor input to improve transmission reference tracking accuracy by 22%.
- Modified transmission controller reference with wheel speed tracking algorithm to improve vehicle acceleration by 0.3 seconds!

Projects

- **VP Shunt Flow Sensor:** Worked closely with UCLA neurosurgeons to design a novel, implantable Ventriculoperitoneal (VP) shunt sensor to detect life-threatening post-surgical blockages based on principles of ion flow and hydrolyzation. Designed sensor body with Solidworks and circuitry with Altium designer.

Skills

Softwares/Tools: Altium, Solidworks, LT Spice, Linux, CATIA, Git
Programming Languages: Python, Java, C & C++, Latex, Bash, MATLAB
Spoken Languages: Telugu (fluent), Spanish, English (fluent)