Ramaditya Kotha

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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, Applied Numerical Computing, Digital System Design

WORK EXPERIENCE

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

- 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 with OpenCV, Mediapipe, and Tensorflow.
- Tested new products and created engineering demonstrations, writing 4 technical articles on wireless charging, machine learning and more!
- Designed a low-cost data-logging tote for factory lines with ATMEL micro controllers and C++. Processed data in Python and presented findings to reduce 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.

EXTRACURRICULAR ACTIVITIES

UCLA Baja SAE

Technical Director — May 2024 - Present

- Laid out vehicle design goals and led systems integration for a team of 70 multi-disciplinary engineers.
- Collected and analyzed over 30 million data points using Python and Matlab to improve vehicle design, dynamics, and controls systems in future design iterations.
- Analyzed transmission data in Python to reduce transmission size by 5% and solve vehicle integration issues.
- Created a detailed documentation website to preserve knowledge about vehicle electronics (rkotha.com).

Controls Hardware PE — May 2023 - May 2024

- Programmed and designed circuitry for the embedded hardware, peripherals, and power system for an automatic off-road transmission using Altium Designer, Falstad, and C++.
- Created a data collection and live telemetry system using Altium, C++, and Python, logging over 30 million data points in a single race.
- Unit tested electronics system with lab equipment and test bench simulations, leading to 100% electronics uptime at competition for the first time in 5 years.
- Improved RPM sensor processing algorithm with Fourier analysis, reducing noise by 14% and phase lag by 50%.
- Wrote field testing plans to improve vehicle tuning in a variety of conditions, improving acceleration by 0.2 seconds
- Redesigned electro-mechanical acutator with optical limit switches and new drive motor based on data collected from previous years, eliminating prior failure cases.

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)