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:** Systems and Signals, Circuit Theory 2, Principals of Feedback Control, Data Science, Applied Numerical Computing

Work Experience

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

- Designed, programmed and trained a TPU-accelerated neural network with Python and Linux to locate and transport packages in a simulated industrial environment. Used Linux-based ARM Cortex micro controllers along with Tensorflow, OpenCV, and Mediapipe.
- Designed a low-cost data logging tote for factory lines and analyzed g-forces and high-voltage static potential data using Python. Presented findings to reduce rejected and wasted inventory.

Extracurricular Activities

UCLA Baja SAE
Technical Director May 2024 - Present

- Supervised and coordinated a group of 70 multi-disciplinary engineers, laying out design goals and strategy for the design and manufacturing of an off-road vehicle.
- Analyzed over 30 million collected data points in Python, presenting findings to improve vehicle design, dynamics, and control systems.
- Resolved vehicle integration problems by analyzing vehicle transmission data in Python and reducing transmission size by 5%.
- Created a detailed documentation website to preserve knowledge for future generations (rkotha.com).

Controls Hardware Project Engineer May 2023 - May 2024

- Designed, built, programmed and tested the embedded hardware and power systems for an automatic off-road transmission using Altium Designer and embedded C++.
- Improved PID controller design for an automatic transmission with feed-forward elements and improved target objectives to reduce transmission lag by 38% and improve tracking. Used Matlab and Python.
- Selected sensors, designed a PCB, and implemented live telemetry for a vehicle data collection system.
- Eliminated electronics system downtime by developing unit testing scripts with function generators and logic analyzers, simulating running conditions to test vehicle controls and PCB performance before competitions.
- Improved RPM sensor processing algorithm by 14%, while halving filter phase lag by analyzing signal properties.
- Created field testing plans to tune vehicle transmission controls, improving vehicle acceleration by 0.2 seconds (5%)
- Designed a shock travel sensor and field testing procedure to collect data on suspension performance, using the findings to improve vehicle dynamics and ultimately race performance.
- Used near-field probes, oscilloscopes, and function generators to troubleshoot circuitry and EMI issues.

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. Performed data analysis in Matlab and Python. 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)