Abhilash Baraf

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Objective

Aspiring electronic engineer with a strong foundation in machine learning and artificial intelligence. Passionate about leveraging data-driven techniques to solve real-world problems in electronics and embedded systems.

Education

Bachelor of Science in Electronics Engineering
XYZ University, City, Country
Graduation: May 2025
Relevant Coursework: Signal Processing, Embedded Systems, Digital Electronics, Machine Learning, AI Fundamentals

Skills

- **Programming Languages:** Python, C++, MATLAB, Java
- **Machine Learning Frameworks:** TensorFlow, Keras, scikit-learn
- **Embedded Systems:** Arduino, Raspberry Pi, FPGA, VHDL
- **Data Science:** Pandas, NumPy, Matplotlib, Seaborn
- **Tools and Technologies:** Git, Docker, Jupyter Notebooks, LaTeX
- **Hardware Description Languages:** Verilog, VHDL
- **Database:** MySQL, MongoDB

Projects

ML for Predicting Signal Integrity in PCB Layouts
Developed a machine learning model using scikit-learn to predict signal integrity issues in PCB layouts based on design parameters.
Technologies: Python, scikit-learn, Pandas, Matplotlib, Jupyter

Embedded System for Real-time Weather Monitoring
Built a weather monitoring system using Raspberry Pi and sensors to collect data and visualize it in real-time using machine learning algorithms for anomaly detection.
Technologies: Python, Raspberry Pi, TensorFlow, NumPy, Pandas

AI-based Smart Circuit Design Tool
Designed a tool that uses machine learning to recommend optimal electronic component placements in circuit designs, improving the overall efficiency and reducing errors.
Technologies: Python, TensorFlow, scikit-learn

Experience

Intern, Embedded Systems Design
ABC Electronics, City, Country
June 2024 – August 2024
- Assisted in the design and testing of embedded systems for IoT devices.
- Developed embedded C++ code for sensor interfacing and communication.
- Worked on improving the efficiency of existing circuit designs.

Research Assistant, Machine Learning for Electronics
XYZ University, Department of Electronics Engineering
September 2023 – Present
- Conducted research on the application of machine learning in electronic systems design.
- Implemented deep learning algorithms to optimize signal processing in communication systems.

Certifications

- **Deep Learning Specialization** – Coursera, 2024
- **Machine Learning with Python** – Udemy, 2023
- **Embedded Systems Design and Programming** – Coursera, 2023

Extracurricular Activities

- Member, XYZ University Robotics Club – Designing and building autonomous robots for competitions.
- Volunteer, Electronics Workshop – Teaching basic electronics and machine learning to high school students.

Languages

- English (Fluent)
- Spanish (Intermediate)
