

Vighneshwar Kuru

Hyderabad | vighneshwarkuru@gmail.com | +91 9391869335 | Portfolio Website

linkedin.com/in/vighneshwarkuru | github.com/vighneshwarkuru

About Me

ECE graduate with a focus on AI-driven embedded systems, exploring the intersection of hardware efficiency and intelligent algorithms

Projects

Anusandan-AI Companion

- Developed *Anusandan* – a patent-pending, offline AI companion robot using Python, Ollama (for local LLMs), Raspberry Pi, and custom speech recognition, designed for privacy-focused human-robot interaction in commercial environments.
- Tools used : Python, Ollama (LLMs), TensorFlow, NLP Raspberry Pi

Generation of contactless ECG signals

- Developed a patent-pending, non-invasive ECG generation pipeline (Python/GANs) using optical PPG signals from fingertip video, eliminating need for physical electrodes.
- Tools Used: Python, GAN model, OpenCV, PyTorch

Fine-Tuning an LLM

- Fine-tuned Meta's LLaMA 3.2 language model on structured SQL datasets using Unsloth with LoRA optimization, improving the model's ability to understand and generate SQL queries.
- Tools used: LLaMA 3.2, Unsloth, LoRA, Hugging Face Transformers, Google Colab (T4 GPU), PyTorch.

Experience

Organizer | VLSI Hackathon, Anurag University

- Led a team of 10 to coordinate a **48-hour hardware hackathon** with 50+ participants, handling logistics, judging, and technical support.
- Curated challenges focused on **FPGA programming and embedded systems**, boosting hands-on learning in ECE domains.

Robotics Workshop Volunteer

- Taught 20+ participants to build and program **ESP32-based robotic cars** from scratch, covering motor control, sensor integration, and wireless communication.
- Guided teams through troubleshooting hardware-software integration issues (e.g., signal latency, power management)

Technologies

Languages: C, Python, Java, HTML, CSS, Embedded C, VLSI

Technologies: Tensorflow, Pytorch, Keras, OpenCV, Gen AI, LLM, ES-IOT, Git.

Certifications

- AI Foundations (HP LIFE)
- Machine Learning with Python (freeCodeCamp)
- Cybersecurity Essentials (Cisco)

Education

Anurag University | BTech | Electronics and communications Engineering

2023-2027