

# ANUBHAV VERMA

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## EDUCATION

**Rajiv Gandhi Institute of Petroleum Technology** 2022 – 2026 (*An Institute of National Importance*)  
Amethi, Uttar Pradesh, India

B. Tech in Electrical Engineering (Major : E -Vehicle) - **CPI - 7.1/10** (till 4th sem)

**DAV Public School, Rohini**  
Delhi, India

**2021** CBSE Class - 12th **Percentage - 95.4%**

**DAV Public School, Rohini**  
Delhi, India

**2019** CBSE Class - 10th **Percentage - 93.8%**

## PROJECTS

**CSI-Based Contact less HeartRate Detection using Wifi signals and ESP32** Ongoing

- Developing a System that can accurately recognize human heartRate based on Wi-Fi signal Data while keeping it small enough to run on ESP32 microcontrollers with under 4MB RAM.
- Collected CSI (Channel State Information) data for different environments using ESP32 Microcontrollers and processing using several Python libraries.
- Used TensorFlow, NumPy, Pandas, Matplotlib, OpenCV, Scikit-learn to implement different Deep Learning models small enough to run on MicroControllers for Embedded Deployment

**Hackathon Project: Text extraction and prediction from images using LLMs** Sep, 2024

- Implemented a hybrid approach combining OCR (Tesseract and EasyOCR) with advanced NLP (fine-tuned LLaMA 3.1 model).
- Used both Google's Tesseract and EasyOCR to extract text data from images, ensuring we captured as much information as possible.
- Fine-tuned the Meta's LLaMA 3.1 8B model to predict quantities and units based on the extracted text.
- Achieved Top 200 ranking among 74k+ participants in the Amazon ML Challenge 2024 with this solution.

**Gesture controlled Interface device using ESP32 and Deep Learning** Dec, 2023

- Developed a Deep learning hand gesture detection model using Tensorflow and Mediapipe, and optimizing architecture for real-time performance to run on embedded Devices.
- Using an embedded C program to use the gestures detected by the model and using the ESP32 to act like a peripheral device

## TECHNICAL SKILLS

**Programming Languages:** Python, C, C++, SQL, Dart (Flutter)

**Machine Learning:** Deep Learning, Computer Vision, Natural Language Processing

**Libraries & Frameworks:** TensorFlow, PyTorch, Keras, NumPy, Pandas, Scikit-learn, OpenCV, Matplotlib, Seaborn

**Tools & Technologies:** Git, Linux, Embedded Systems, MicroPython, ROS, Gazebo, WSL2, MATLAB, SIMULINK

**Domain Knowledge:** Embedded Systems, Signal Processing, Electrical Machines, Digital and Analog Systems

## ACHIEVEMENTS

**Amazon ML Challenge 2024:** Ranked in the top 200 out of 75,000+ participants

**Qualified JEE Advanced 2022**