

Praveen Kumar

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EDUCATION

Indian Institute of Engineering Science and Technology, Shibpur

BE in Electrical Engineering; CGPA: 8.17/10.0

Howrah, India

2020 – 2024

Indian Public School

Secondary Education (Class- XII) : 86.8%

Madhubani, India

2017 – 2019

EXPERIENCE

Advanced Application Engineering Analyst

Accenture

Aug. 2024 – May 2025

Pune, India

- Conducted bias identification and mitigation by analyzing training data for socio-demographic disparities.
- Proposed algorithmic interventions that reduced model bias by 25% across validation metrics.
- Collaborated with legal and ethics teams to ensure model development aligned with responsible AI standards.

Advanced Application Engineering Analyst (Summer Intern)

Accenture

June 2023 – July 2023

Bangalore, India

- Resolved inconsistent data formats to ensure uniform structure across datasets.
- Removed 2500+ duplicate records to improve data accuracy and efficiency.
- Resolved encoding issues affecting 10K+ records.
- Used Python and Pandas for effective data cleaning and preprocessing

PROJECTS

Chat Assistance System Using LangChain | LangChain, Google Gemini, LangSmith, LangGraph

- Created a multi-turn conversational chatbot with LangChain and Google Gemini, with a 95% accuracy in context recall over 100+ user interactions.
- Deployed the chatbot successfully with LangServe, having zero downtime over a 2-month live testing period.
- Tuned and optimized chatbot performance with tools from LangSmith, decreasing the average response latency by 30%.
- Designed and optimized conversation flow with LangGraph, improving user engagement and boosting session duration by 40%.

Building an AI Model for Image Enhancement | Python, Deep Learning

- Built a deep learning model to colorize grayscale images with over 92% structural similarity index (SSIM) on the test dataset.
- Implemented GAN and perceptual loss techniques, resulting in 30% improvement in color realism compared to baseline models.
- Trained on 20,000+ images from open-source datasets, achieving high color accuracy and consistent visual quality.
- Developed end-to-end pipeline for data preprocessing, model training, and output generation, reducing manual workload by 70%.

Human Following Robot | Arduino, Ultrasonic Sensors, Embedded C++, IR Sensors

- Designed and developed an autonomous robot with more than 90% accuracy in human-following behavior across 50+ indoor test runs.
- Integrated 3 ultrasonic sensors to dynamically measure distance and maintain a safe following range between 20–100 cm.
- Calibrated IR sensors for real-time directional tracking with response times under 100 ms, enabling precise turns.
- Implemented Arduino-based motor control logic that reduced movement lag by 40%, ensuring smooth navigation even with rapid subject movement.

TECHNICAL SKILLS

Languages: Python, C++, SQL

Tools & Platforms: GitHub, PyCharm, VSCode, Jupyter Notebook, Google Colab

Technologies: Machine Learning, Artificial Intelligence, Deep Learning, Prompt Engineering

Libraries: pandas, NumPy