

DILEEP KUMAR IRRI

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Education

Gayatri Vidya Parishad College of Engineering (Autonomous), Visakhapatnam

2021 - 2025

B.Tech-Computer Science (Artificial Intelligence & Machine Learning)

CGPA : 9.08/10

Open-Source Contributions

- **GSSOC 2024:** Implemented advanced scraping algorithms for efficient image extraction.
- **SSOC 2024:** Integrated a reward system with points for swaps, reviews and discussions, increasing user engagement.

Internships

AI Researcher

Jan – March 2025

Flipkart—Bangalore — Hybrid

- Contributed to the development of **LLaMA 3.2 Vision** model leveraging Unsloth for efficient parameter adaptation and integrated it with LangChain for multi-modal inference workflows; achieved 95% accuracy in **brand logo detection**, 98% precision in expiry date **OCR extraction**, and 97% accuracy in **visual item enumeration**.
- Researched and fine-tuned multiple OCR models, including **Qwen2-VL-2B, StepFun AI** to extract structured information from **noisy, multilingual** to select the most robust model for integration in a real-time retail automation.

ML Engineer Intern

Jan – April 2024

Stackbox Services Private Limited—Bangalore — Hybrid

- Analyzed 21,000+ historical real estate transactions through **EDA** and visualizations using **Matplotlib** and **Power BI**, and pre-processed data to improve model accuracy.
- Built scalable **ELT pipelines**, to integrate data from diverse sources and trained predictive models (Linear Regression to KNN), reducing RMSE by 8% for improved forecasting accuracy.
- Developed and deployed a Real-time property valuation web application on **GCP (Google Cloud Platform) Virtual Machines** using the Flask framework, GitHub, and a Linux environment.

Projects

Smart Vision Technology Quality Control

[GitHub](#)

- **Implemented a real-time camera input system** using Flask on GCP virtual machines, supporting live external camera feeds and desktop uploads with ≤ 1000 ms processing latency.
- **Fine-tuned and deployed LLaMA 3.2 Vision model** using LangChain and Unsloth, achieving 95% brand detection accuracy, 98% expiry date extraction precision, and 100% item counting accuracy.
- **Designed a scalable, multi-tenant backend architecture** on GCP with reverse proxy setup (ports 80/443), secure HTTPS communication, and robust error handling for production-grade performance.

Software and Hardware Control Using Gestures

[GitHub](#)

- Achieved **94% accuracy** in hand tracking using **OpenCV, MediaPipe, TensorFlow** for image processing.
- Integrated real-time hardware control with **Arduino IDE (v1.8.13)** for gesture actions.
- Developed a gesture recognition system to interpret hand movements for cursor actions (movement and scrolling), optimizing performance to use only **40% CPU** on a system with **8GB RAM**.

Technical Skills

Languages : C++, Python, C, Java, SQL, HTML, CSS

AI Pipelines : MS Excel, Power BI, RAG Pipelines, Vision Pipelines, Agentic Pipelines, ML Pipelines

Frameworks/DBs: Flask, Streamlit, FastAPI, Graph DB, Vector DB, Relational DB

DevOps/CI-CD : GitHub, Shell Scripting, Virtual Machines, Containers, Docker, Kubernetes

Achievements

- **Flipkart Grid 6.0:** National winner of Flipkart GRID 6.0 at IIT Madras, Over 1Lakh+ Participants .
- **Best OutGoing:** Recognized as the Best Outgoing Student from GVPCE(A), for Academic 2021-25.
- **Amazon Challenge 2024:-** National Top 250 Finalist among 75000+ Participants
- **Security Research:** Discovered a vulnerability in Samba (NetBIOS-SSN), awarded \$20 by SnapChat.
- **ML Model Expo Winner:** Stood 1st place in inter-college ML competition conducted by GVPCE(A).
- **Publications:-** Submitted Paper Titled "AI Powered Vitamin Deficiency Detection System"
- **Leadership:** Led the organization of over 25 events as a Board Member of the Social Service Community - NSS