

S AMARJITH

AI/ML Engineer

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SUMMARY

AI/ML Engineer with hands-on experience building LLM-powered and computer vision systems, including a production-style CV pipeline (OCR and Vision-Language Models) developed during an industry internship. Skilled in Python, machine learning, and the modern GenAI stack - LangChain, LangGraph, LlamaIndex, RAG pipelines, and AI agents. Proven ability to take projects from data preprocessing through model evaluation to deployment (Flask, Streamlit, FastAPI). Seeking an AI Engineer / ML Engineer role to build and ship real-world AI systems.

TECHNICAL SKILLS

Generative AI & LLMs: LangChain, LangGraph, LlamaIndex, Retrieval-Augmented Generation (RAG), Large Language Models (OpenAI, Claude, Gemini), Prompt Engineering, AI Agents / Agentic AI, Vector Databases

Computer Vision: OpenCV, CNN, OCR, Vision-Language Models (VLM), YOLOv8 (Detection & Segmentation), Open-Vocabulary Localization

Machine Learning & NLP: Scikit-learn, TensorFlow, Keras, PyTorch, NLTK, spaCy, Supervised & Unsupervised Learning, Classification, Regression, Clustering, Feature Engineering, Model Evaluation, Cross-Validation, Hyperparameter Tuning

Programming & Data: Python, SQL, C, Pandas, NumPy, Data Cleaning, Data Preprocessing, EDA

Visualization & BI: Matplotlib, Seaborn, Power BI, MS Excel

Deployment & Tools: Flask, Streamlit, FastAPI, REST APIs, Git, GitHub, Jupyter Notebook, Google Colab

Cloud & MLOps: AWS, Cloud-Based Model Training, Model Deployment

EXPERIENCE

AI/ML Intern — Design Direct UK

[June 2026] – [July 2026]

- Built a computer vision pipeline combining OCR and Vision-Language Models (VLMs) to analyze kitchen images and determine feasibility of conversion into a bedroom based on defined spatial and structural conditions.
- Researched and evaluated object detection and segmentation approaches, including YOLO (detection & segmentation) and prompt-based open-vocabulary localization methods (Locate Anything), to improve spatial reasoning accuracy.
- Explored integration of VLM outputs with rule-based logic to convert visual predictions into structured feasibility decisions on unstructured, real-estate-style image data.

PROJECTS

AI Fire Safety Assistant

- Built an AI-powered surveillance application combining YOLOv8 object detection with a LangChain based Retrieval-Augmented Generation (RAG) chatbot for real-time fire monitoring and safety Q&A.
- Implemented a vector database for document retrieval and integrated a large language model to answer safety, prevention, and emergency-response queries in real time.

Hybrid Machine Learning Based Network Intrusion Detection System

- Designed a hybrid detection model using Random Forest and Isolation Forest for classifying and flagging anomalous network traffic in real time.
- Developed and validated the model in Jupyter Notebook, covering data preprocessing, feature selection, and model evaluation; deployed via Flask for live intrusion detection.

AI-Powered YouTube Comment Sentiment Analysis Dashboard

- Built an NLP pipeline using the YouTube Data API to classify comments as Positive, Negative, or Neutral, deployed as an interactive Streamlit dashboard.
- Delivered interactive sentiment visualizations (pie charts) and downloadable analytical reports for end users.

EDUCATION

Master of Computer Applications (MCA)

August 2024 – May 2026

Nehru College of Engineering and Research Centre, Pampady

Bachelor of Computer Applications (BCA)

June 2021 – May 2024

V V College of Science and Technology, Palakkad