Muhammed Fayiz M
Software Engineer

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Software engineer with hands-on experience in building AI-powered and IoT-integrated systems using Python, ML, and automation. Skilled in deploying real-world applications with Docker, AWS, and LangChain, focused on solving practical problems through end-to-end project execution.

PROJECTS

Surveillance Video Summarization Software - Team lead

- Built an AI-driven video analysis system using YOLO that reduces manual review time by 70%.
- Implemented a PyQt6 interface for seamless footage uploads and automatic key-event summarization.

Greeting Robot - Team lead

- Designed and built an interactive robot in Python within 3 weeks for a tech fest, to enhance visitor engagement.
- Deployed on Raspberry Pi to greet visitors and mimic their emotions in real time with high-fives.

Student Performance Prediction with CI/CD Deployment

- Developed an end-to-end ML pipeline using Python and Scikit-learn for predicting student outcomes.
- Deployed the model on AWS EC2 using Docker and automated deployment with GitHub Actions.
- Created a simple web interface for real-time predictions and testing.

Multi-modal RAG System on ISRO Report

- Built a Retrieval-Augmented Generation system to process 200+ page ISRO technical documents.
- Extracted insights from complex visuals using OCR and AI-based image captioning for multi-modal understanding.
- Employed Hugging Face sentence transformers and Milvus for dense vector search with LangChain integration and designed an interface to query.

EDUCATION

Kerala Technical University - Bachelor of Computer Science and Engineering
2021- 2025   College of Engineering Thalassery

SKILLS

- Programming Languages: Python, Java, C, JavaScript, C#.
- Machine Learning & AI: LangChain, NumPy, Pandas, Scikit-learn, OpenCV.
- IOT & Embedded Systems: Raspberry Pi, ESP, STM32, Arduino.
- DevOps & Deployment: Docker, GitHub Actions, AWS EC2.
- Database & Web: MySQL, HTML, CSS, JavaScript.
- Soft Skills: Problem-solving, Adaptability, Teamwork.

CERTIFICATIONS

- Supervised Machine Learning: Regression and Classification, DeepLearning.AI, Stanford Online (Coursera) - January 2024
- Core Machine Learning Engineering & Operations (Antern)