K Kannika

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Summary

Machine Learning enthusiast with hands-on experience in building and deploying AI-based applications across machine learning, deep learning, and generative AI. Skilled in developing scalable solutions, working with real-time data, and leveraging LLM APIs and neural networks to solve practical, real-world problems.

Education

Mangalore Institute of Technology & Engineering 2023 – Present
B.E. Computer Science Engineering (Artificial Intelligence and Machine Learning) *CGPA: 8.70*

Poornaprajna PU College, Udupi 2021 – 2023
12 Std, Karnataka State Board *Percentage: 87.5%*

Anandathirtha Vidyalaya, Udupi 2020 – 2021
10 Std, CBSE *Percentage: 90.8%*

Skills

Languages: C++, Python
AI & ML: NumPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, OpenCV, FastAPI
Generative AI: RAG, Embeddings, LLM APIs, LangChain (basic), LangGraph (basic), Ollama
Tools: Git, GitHub, Postman, VS Code
Platforms: Windows, MongoDB, MySQL, LangSmith

Projects

Pharmalyx | *Flutter, Riverpod, FastAPI, RAG, LLM APIs*

- Built an AI-powered mobile application to assist in pharmaceutical research by retrieving and summarizing relevant medical information from large datasets, enabling faster and more efficient knowledge discovery.
- Implemented a basic retrieval-based system using embeddings to fetch relevant documents and generate simplified summaries.
- Designed modular architecture with Flutter frontend and FastAPI backend for smooth API integration.
- Added export functionality (PDF/CSV) and optimized response flow for better user experience.

TrafficLens | *Python, FastAPI, React, OpenCV*

- Developed a traffic monitoring and analysis system capable of processing video streams to detect vehicles and analyze congestion patterns, helping in understanding real-world traffic behavior.
- Implemented vehicle detection and tracking using OpenCV-based techniques and frame processing.
- Designed algorithms to estimate traffic density and identify parking or blockage scenarios.
- Built a FastAPI backend and React dashboard for visualizing traffic insights.
- Optimized video processing pipeline for smoother performance on recorded streams.

Fashion MNIST Classifier | *TensorFlow, Keras, Streamlit, Docker*

- Built an image classification system using a Convolutional Neural Network trained on the Fashion-MNIST dataset to classify clothing categories with high accuracy.
- Achieved approximately 90% accuracy through model tuning and proper preprocessing techniques.
- Developed an interactive Streamlit application for real-time image prediction.
- Containerized the application using Docker to ensure consistent deployment across environments.
- Improved model performance through experimentation with layers, activation functions, and batch sizes.

Courses & Certifications

- Generative AI with LangChain and Hugging Face – Udemy