Dhyaneshvar K

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PROFILE SUMMARY

3rd-year BTech Computer Science student at IIIT Sri City with strong skills in Python, machine learning, deep learning, computer vision, and NLP. Passionate about AI, focusing on LLMs and Reinforcement Learning, while expanding expertise in web development, application integration, and model deployment.

EDUCATION

Indian Institute of Information Technology SriCity *Aug 2023 – Present*
BTech in Computer Science Engineering

- GPA: 8.68

PROJECTS

AgriIntel - A Smart AI Platform to help Indian Farmers *Feb 2025*

- Developed a crop recommendation model using Random Forest achieving 96%+ accuracy.
- Designed a recommender system leveraging crop yield, MSP, rainfall, weather, and soil nutrient data to suggest profitable crop choices.
- Added a recommendation engine for steps to take based on current crop and soil conditions.

General RAG Chatbot with Hybrid Retrieval, HyDE and Local LLM *May 2025*

- Implemented a local RAG setup with Hybrid Retrieval (BM25 + Dense) using Reciprocal Rank Fusion.
- Integrated HyDE in parallel with asyncio and Cross Encoder for reranking.
- Built a FastAPI backend with HTML frontend.
- Evaluated on BEIR scifact dataset with results: NDCG@5 = 0.66, MAP@5 = 0.63, Recall@5 = 0.74.

JARVIS - like Personal Assistant with Local Multimodal LLM *Dec 2024*

- Built a personal assistant powered by the `llama-3.1-8B-instruct-Q4` model as the core LLM.
- Integrated `llama-3-vision-alpha-mmproj` as a vision connector for multimodal interaction.
- Used ChromaDB and ElasticSearch to store knowledge and respond to user queries.
- Intelligent session management with smart information retention across sessions using hybrid retrieval.

FlappyRL — Visual Flappy Bird Agent (SB3, PPO/A2C) *Apr 2025*

- Trained PPO/A2C agents for **10M** timesteps on a pixel-based Flappy Bird Gym env with **frame stacking (4)**, preprocessing, and frame skipping for efficiency.
- Used **entropy annealing** to shift from exploration to exploitation in late training.
- Logged runs with **TensorBoard**; best configs reproducible from repo.
- Hyperparameter tuning limited by compute (**10M steps = 19.2 hrs**); relied on defaults and intuition.

TECHNICAL SKILLS

Programming Languages: Python, C++, C, Java, JavaScript, SQL
Frameworks & Libraries: TensorFlow, PyTorch, Scikit-Learn, FastAPI, Streamlit, LangChain, Node.js
Data Science & ML: ML, DL, RL, NLP, CV, LLMs, Exploratory Data Analysis
Tools & Databases: Pandas, Seaborn, OpenCV, MySQL, MongoDB, HTML, CSS

CERTIFICATIONS

DeepLearning.AI, Coursera, Supervised Machine Learning: Regression and Classification *2024*

DeepLearning.AI, Coursera, Unsupervised Learning, Recommenders, Reinforcement Learning *2025*