Aryan Mahajan

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EXPERIENCE

IIT Jammu | Project Research Intern
Jan 2024 - Mar 2024 | Jammu, J&k, India

Developed an AI-powered event-based chatbot using Retrieval-Augmented Generation (RAG). Key contributions included:

- Data Preprocessing: Extracted and processed text from PDFs using PyPDF2 for training data preparation.
- Model Development: Implemented a RAG pipeline with FAISS vector storage, Hugging Face embeddings, and a GPT-based language model for accurate event-based responses.
- Frontend Development: Built an interactive chatbot UI using Streamlit, integrating SQLAlchemy for database management and optimizing real-time user interactions.
- Performance Optimization: Improved query processing speed and accuracy through metadata filtering and enhanced retrieval mechanisms.

Technologies Used: Python, PyPDF2, Hugging Face, FAISS, SQLAlchemy, Streamlit, LangChain

PROJECTS

Lunar Lander with NEAT (NeuroEvolution of Augmenting Topologies)
Sept 2024 - Oct 2024

NeuroEvolution of Augmenting Topologies (NEAT) is a genetic algorithm (GA) for the generation of evolving artificial neural networks. This project is an AI-powered Lunar Lander simulation using NEAT (NeuroEvolution of Augmenting Topologies) and Pygame. The AI tries to controls the lander to perform smooth landings on a platform while avoiding crashes, learning from each generation using evolutionary algorithms.
GitHub Link:
https://github.com/AryanMahajan/Lunar_Lander_with_NEAT

Flappy Bird with NEAT (NeuroEvolution of Augmenting Topologies)
Aug 2024 - Sept 2024

NeuroEvolution of Augmenting Topologies (NEAT) is a genetic algorithm (GA) for the generation of evolving artificial neural networks. This project demonstrates the power of NEAT in solving challenging tasks like playing Flappy Bird. By combining the flexibility of neural networks with the efficiency of genetic algorithms, NEAT can learn and adapt to complex environments, providing a valuable tool for artificial intelligence and game development.
GitHub Link:
https://github.com/AryanMahajan/Flappy_Bird_With_NEAT

Dog or Cat Sorter (DOTS)
May 2024 - Jun 2024

DOTS is a machine learning model which can classify whether the mage is of a dog or a cat using CNN method and is made using TensorFlow.
GitHub Link: https://github.com/AryanMahajan/DOTS

EDUCATION

MY UNIVERSITY
BACHELOR OF SCIENCE IN COMPUTER SCIENCE WITH SPECIALIZATION IN AI & ML
Expected June 2027
Current Cum. GPA: 8.94/10

SKILLS

PROGRAMMING

Python (PyTorch, Tensorflow, LangChain), Java and DSA, C Language, HTML&CSS, SQL(MySQL, SQLAlchemy, SQLite), Statistics, Data Analysis

COURSEWORK

- Python Programming – CIIT
- Introduction to Statistics - Stanford University
- Introduction to Machine Learning – DeepLearning.AI
- Advance Learning Algorithms – DeepLearning.AI
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning – DeepLearning.AI
- Unsupervised Learning, Recommenders, Reinforcement Learning – DeepLearning.AI
- Convolutional Neural Networks in TensorFlow – DeepLearning.AI

LINKS

Github: https://github.com/AryanMahajan

LinkedIn:
https://www.linkedin.com/in/aryan-mahajan-b11684258/

Webpage:
https://aryanmahajan.vercel.app/