

RAJARSHI ROY

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Education

Kalyani Government Engineering College

B.Tech in Computer Science and Engineering

Aug. 2021 – Jul. 2025 (Expected)

8.9 CGPA (up to 5th semester)

Personal Projects

Game Recommender App

May. 2024

- Developed a scalable game recommendation system powered by **Google Gemini**.
- Key features include seamless scalability, **natural language query handling**, user-friendly chatbot interface using **Streamlit**, and **user feedback integration** for continuous improvement.
- Implemented **logging** and **monitoring** with **Langsmith**.
- Utilized **GitHub Actions** for **CI/CD**, **AWS ECR** for **Docker** container registry, **AWS EC2** for hosting, and **Terraform** for infrastructure as code.

Langchain_QA

Mar. 2024 – Apr. 2024

- The Langchain_QA app optimizes question answering by merging the **RAG model** with **Langchain's** document division and **Gemini's vector embeddings**. **FAISS** enhances query efficiency by swiftly storing and retrieving similar vectors. **Chainlit** for the user interface.
- Leveraging **Gemini** as the base LLM empowers RAG, while **Langchain's prompt** templates ensure precise responses.
- **GitHub Actions** automate **CI/CD**, **Docker** enables consistent containerization, and **AWS** provides scalable deployment infrastructure.

AI-reasearch-assistant

Mar. 2024

- This AI Research Assistant repository uses Gen AI and RAG model. Powered by **Google Gemini**.
- Helps in question answering about the provided research paper by uploading them through **Streamlit**, we save it in the Data folder and clean the document, index it by using **Llama-Index** using **Gemini Embedding Model**.

My Sweet Home

Jul 2023 – Nov 2023

- **Predicts** house prices and **recommends** similar housing properties using content-based filtering.
- **House Price Prediction: Accuracy** of approximately **90%** for properties for **sale** and **70%** for **rental** properties.
- **Property Recommendation:** Provides a list of **6 most similar properties** matching the given criteria and shows the **average percentage of cosine-similarity** for those properties.

Technical Stack

- **Python Packages and Frameworks:** Scikit-Learn, TensorFlow, Keras, NumPy, Pandas.
- **Web Development:** HTML, CSS, Flask, Django, JavaScript, Chainlit, Streamlit.
- **Programming Languages:** Python, JavaScript, SQL, NoSQL, HTML, CSS.
- **Databases:** MySQL, MongoDB, PostgreSQL, Pinecone, FAISS.
- **MLOps Tools:** DVC, MLflow, CI/CD, GitHub Actions.
- **Cloud Deployment and Containers:** AWS ECR, AWS EC2, Vercel, Git, Docker.
- **Gen AI Framework and Models:** LlamaIndex, Langchain, Langsmith, Google Gemini.

Achievements

Winner of Smart India Hackathon 2022,

Aug 2022

Certifications

Machine Learning Specialization Course

Mar. 2023

Deep Learning Specialization Course

Mar. 2023

Mathematics for Machine Learning

Mar. 2023