

RAJARSHI ROY

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Github

Recommendations

Portfolio

Education

Kalyani Government Engineering College

B.Tech in Computer Science and Engineering

Aug. 2021 – Jul. 2025 (Expected)

8.9 CGPA (up to 5th semester)

Projects

Game Recommender App Video explanation

May. 2024

- Engineered a scalable game recommendation system powered by Generative AI model, **Google Gemini**, recommending about **180 games** to users.
- Features included seamless scalability, **natural language query handling**, user-friendly chatbot interface using **Streamlit**, and continuous improvement through **user feedback integration**.
- Implemented **logging** and **monitoring** with **Langsmith**, helping in monitoring and optimizing code logic to reduce prompt token from **11,000 to 6,000**.
- Deployed using **GitHub Actions** for **CI/CD**, **AWS ECR** for **Docker** container registry, **AWS EC2** for hosting, and **Terraform** for infrastructure as code.

My Sweet Home Video explanation

Jul 2023 – Nov 2023

- Predicted** house prices and **recommended** similar housing properties using content-based filtering.
- House Price Prediction:** Achieved **90%** accuracy for properties for **sale** and **70%** accuracy for **rental** properties.
- Property Recommendation:** Generated a list of **6 most similar properties** matching given criteria and displayed by the use of simple machine learning concept, **average percentage of cosine-similarity** for those properties.

Experience

Artificial Intelligence Institute of South Carolina

AI Research Intern

May 2024 - Present

Kolkata, India (Remote)

- Under mentorship of Prof. (Dr.) Amitava Das, applied theoretical understanding to practical solutions in NLP.
- Appointed as **Defactify-4.0 Workshop Web Chair** at **AAAI'25**, helping organize the shared tasks in **Codalab** and guiding participants.

Technical Stack

- Python Packages and Frameworks:** Scikit-Learn, TensorFlow, Keras, NumPy, Pandas, PyTorch, FastAPI, OpenCV, Matplotlib, Seaborn, XGBoost, LightGBM, Plotly, BeautifulSoup, Scrapy.
- Web Development:** HTML, CSS, Flask, Django, JavaScript, Chainlit, Streamlit, REST APIs.
- Programming Languages:** Python, JavaScript, SQL, HTML, CSS, R, Bash/Shell.
- Databases:** MySQL, MongoDB, PostgreSQL, Pinecone, FAISS, SQLite.
- MLOps Tools:** DVC, MLflow, CI/CD, GitHub Actions, Docker Compose.
- Cloud Deployment and Containers:** AWS ECR, AWS EC2, Vercel, Git, Docker, Terraform.
- Gen AI Framework and Models:** LlamaIndex, Langchain, Langsmith, Google Gemini, Hugging Face.

Positions of Responsibility

Web Chair of Defactify-4.0 at AAAI'25

Nov 2022 - Present

- Appointed as **Defactify-4.0 Workshop Web Chair** for **AAAI'25**. Accountable for **leading** and **overseeing the shared tasks** on **Codalab**, ensuring optimal workflow and **maximized accessibility**.
- Provided **strategic guidance and expert support** to participants, enhancing their experience and ensuring the **successful execution** of shared tasks throughout the competition.

Achievements

Winner of Smart India Hackathon 2022

Aug 2022

- Competed in the **Smart India Hackathon 2022** grand finale as part of **Team BRAINCELLS**, conceptualizing and **delivering a solution** in 36 hours to address educational challenges during COVID-19.
- Developed and **launched a crowd-volunteering app with a gamified leaderboard**, promoting volunteering and **teaching** through the distribution of **social credits** via mobile and web platforms.