AYANTANU LAHA

MSc. Student | BSc. in Computer Science

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RESEARCH INTEREST

Retrieval-Augmented Generation (RAG) & Multilingual RAG, Multimodal LLM, Machine Learning, Deep Learning, and Algorithm Design.

ONGOING PROJECT

- **Enhancing Bilingual Information Retrieval with Neo4j**
  - **Tools & Technologies:** Python, Pandas, Numpy, Neo4j, Vector DB, Langchain, Hugging Face , Llama3
  - Developing a bilingual Retrieval-Augmented Generation (RAG) system using Neo4j, which will enable queries in Bengali or English and deliver relevant answers from documents in both languages. The project focuses on creating relational mappings between Bengali and English documents.

PROJECTS

- **Ensemble Learning Strategies for Enhancing Predictive Models in Cardiology**
  - **Tools & Technologies:** Python, Pandas, Numpy, Matplotlib, Scikit-learn, Kaggle, Stacking classifier.
  - Enhanced cardiology diagnostics using ensemble learning (stacking) in Python, combining multiple models to improve prediction accuracy and robustness.
- **PDF Genius: Empowering Document Interaction with AI Chatbot**
  - **Tools & Technologies:** Python, Flask, React JS, MySQL, llama-2.
  - Developed a chatbot with NLP to extract information from PDFs and integrated a React JS UI for enhanced interaction. Implemented search history and quota management to track queries and manage document access efficiently.
- **Movie Recommendation System using Streamlit**
  - **Tools & Technologies:** Python, Pandas, Numpy, Streamlit.
  - Built a movie recommendation system using collaborative filtering and Streamlit, with data processing in Pandas. Integrated TMDB API for movie data and posters, allowing users to get personalized recommendations based on their preferences and movie similarities.

EDUCATION

MSc in Computer Science
Ramakrishna Mission Vivekananda Educational and Research Institute

📅 2023 – Present   📍 Belur, India

BSc in Computer Science
Ramakrishna Mission Residential College (Autonomous), Narendrapur

📅 2020 – 2023   📍 Kolkata, India

CGPA 9.61/10

Higher Secondary (10+2)
Dhaniakhali Mahamaya Vidyamandir

📅 – 2020   📍 Dhaniakhali, India

Percentage 93.2%

Secondary (10)
Dhaniakhali Mahamaya Vidyamandir

📅 – 2018   📍 Dhaniakhali, India

Percentage 91.8%

EXPERIENCE

3-Day Workshop on Medical Data Analysis using Python
Indian Statistical Institute, Kolkata

📅 June 2024   📍 Kolkata, India

Gained practical skills in Python programming for analyzing medical datasets, enhancing proficiency in data analysis for healthcare applications.

6th Summer School on AI
International Institute of Information Technology Hyderabad (IIITH)

📅 July 2022 - Aug 2022   📍 Hyderabad, India

Covered various topics in AI, providing valuable insights and knowledge in Computer Vision, Deep learning, and Machine Learning.

TECHNICAL SKILLS

- **Programming Languages**: Python, C++, HTML, CSS, Java Script
- **Tools & Technologies**: MySQL, Neo4j, FIASS DB
- **Libraries & Frameworks**: NumPy, Pandas, Scikit-learn, NLTK, Pytorch, SentenceTransformer, Flask, Streamlit

RESPONSIBILITIES

Perceptron Tech-Fest 2024
Design Team Member

📅 RKMVERI   📍 2024

Responsible for designing promotional materials, event banners, and brochures for the tech fest.

Seminar Committee
Committee Member

📅 RKMRC   📍 2022 – 2023

Assisted in organizing and managing seminars, workshops, and guest lectures for students and faculty.

HOBBIES

Football   Drawing   Coding