

AYANTANU LAHA

Student | MSc. in Computer Science | BSc. in Computer Science

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Portfolio Website

INTEREST

Retrieval-Augmented Generation (RAG), Cross-Lingual Information Retrieval, Machine Learning, Deep Learning, NLP, and Algorithm Design.

ONGOING PROJECT

- RAG-Enhanced Cross-Lingual Information Retrieval: Bridging Bilingual Query Gaps and Streamlining Search**
 - Tools & Technologies:** Python, Pandas, Numpy, FAISS DB, Hierarchical Navigable Small World (HNSW) Algorithm, Hugging Face, Llama3
 - Developing a cross-lingual Retrieval-Augmented Generation (RAG) system using FAISS DB to handle Bengali and English queries. Enabled retrieval of relevant answers from bilingual documents and created relational mappings between Bengali and English content.

PROJECTS

- Ensemble Learning Strategies for Enhancing Predictive Models in Cardiology**
 - Tools & Technologies:** Python, Pandas, Numpy, Matplotlib, Scikit-learn, Kaggle, Stacking classifier.
 - Improved cardiology diagnostics by using ensemble learning with stacking in Python, combining multiple models to boost prediction accuracy and robustness.
- PDF Genius: Empowering Document Interaction with AI Chatbot**
 - Tools & Technologies:** Python, Flask, React JS, MySQL, Llama2.
 - Built a chatbot with NLP for PDF information extraction, integrated with a React JS UI for better interaction. Implemented search history and quota management for efficient query tracking and document access.
- Movie Recommendation System using Streamlit**
 - Tools & Technologies:** Python, Pandas, Numpy, Bag of Words (BoW), Streamlit.
 - Created a movie recommendation system using NLP and Streamlit, with data pre-processing in Pandas. Integrated TMDB API for movie data and posters, providing personalized recommendations based on user preferences and movie similarities.

EDUCATION

MSc in Computer Science

Ramakrishna Mission Vivekananda Educational and Research Institute

2023 - Present

Howrah, 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

2018 - 2020

Dhaniakhali, India

Percentage 93.2%

Secondary (10)

Dhaniakhali Mahamaya Vidyamandir

- 2018

Dhaniakhali, India

Percentage 91.8%

EXPERIENCE

Workshop on Medical Data Analysis using Python

Indian Statistical Institute, Kolkata

June 2024

Kolkata, India

Developed Python skills for analyzing medical datasets and improving data analysis in health-care, with insights into current research.
Certificate

6th Summer School on AI

International Institute of Information Technology Hyderabad (IIITH)

July 2022 - Aug 2022

Hyderabad, India

Covered topics in AI, offering insights into Computer Vision, Deep Learning, and Machine Learning.
Certificate

TECHNICAL SKILLS

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

CERTIFICATES

Neo4j Certified Professional

Graph Academy Neo4j

My SQL (Basics) Certificate

Great Learning

RESPONSIBILITIES

Perceptron Tech-Fest 2024

Design Team Member

RKMVERI

2024

Designed website and event posters.

HOBBIES

Football

Drawing

Coding

LANGUAGES

English

Bengali

Hindi