Raihan Uddin

M.Sc. in Computer Science
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LinkedIn
My Portfolio

Profile

I am currently pursuing an MSc in Computer Science with a growing interest in Data Science, Machine Learning, and Software Development. I am eager to learn new skills and gain practical experience through hands-on projects, with the goal of enhancing my technical abilities. My objective is to contribute to innovative solutions and make a positive impact through technology.

Education

- **M.Sc. in Computer Science** *2024-26 (In progress)*
  Ramakrishna Mission Vivekananda Educational and Research Institute
  - **Coursework:** Advanced Algorithm, Machine Learning, LLM, Introduction to Probability, Statistics-I, Graph Theory.

- **B.Sc. in Computer Science** *2021-24*
  Ramakrishna Mission Residential College
  - **CGPA:** 8.30 **Coursework:** Data Structure With C, Design and Analysis of Algorithm, Image Processing, Operating System.

Projects

- **MedXpert: Medical Visual QA & Diagnosis Assistant** *Jan 2025 - May 2025*
  - Designed and implemented an AI system to support medical diagnosis using visual-language retrieval and automated report generation.
  - Fine-tuned CLIP model on MIMIC-CXR dataset to enhance medical domain understanding.
  - Integrated BLIP for image captioning and Gemini LLM for structured diagnostic report generation.
  - Developed an interactive Streamlit UI enabling clinicians to upload X-rays, enter queries, visualize results, and generate diagnostic summaries.
  - **Tools:** Python, PyTorch, OpenAI CLIP, BLIP, Gemini LLM, Streamlit, MIMIC-CXR dataset.
  - **GitHub:** Click here

- **ChatGPT Clone with DeepSeek R1 & RAG-Powered PDF Q&A** *Jan 2025 - May 2025*
  - Developed a ChatGPT-like AI Assistant using DeepSeek R1 (1.5B) LLM integrated with Retrieval-Augmented Generation (RAG) for document-based Q&A.
  - Enabled users to upload PDFs and ask questions, with relevant content retrieved via FAISS vector search and used to augment LLM responses.
  - Implemented persistent chat memory and chat history management using MySQL, allowing seamless conversation continuity across sessions.
  - Built a clean and intuitive Streamlit UI with sidebar chat history, auto-generated titles, and smooth chat experience.
  - **Tools:** Python, Streamlit, FastAPI, DeepSeek R1 (via Ollama), FAISS, MySQL.
  - **GitHub:** Click here

- **A Classification-Based Approach for Predicting Smartphone Price Categories** *Aug 2024 - Nov 2024, RKMVERI*
  - Built a machine learning model to accurately classify smartphones into price segments using multiple classification algorithms.
  - Analyzed key features influencing smartphone pricing to improve model performance.
  - Compared various classification techniques to identify the best algorithm for price prediction.
  - **Tools:** Python (scikit-learn, pandas, numpy, matplotlib).
  - **GitHub:** Click here

- **A Wavelet-Based Approach for Authenticating Medical Images and Extracting Patient Information** *Jan 2024 - Apr 20*

  – Designed and implemented a digital watermarking system to protect the integrity of medical images and ensure their authenticity.
  – Applied methods like Discrete Wavelet Transform (DWT), Histogram Shifting, and Arnold's Cat Map to seamlessly embed hidden watermarks into images.
  – Created a tool that enables healthcare professionals and researchers to confidently verify medical images for diagnosis and treatment.
  – **Tools:** Python, OpenCV.

Technical Skills and Interests

Languages: C, C++, Python, Java, SQL.

Python Libraries: NumPy, Pandas, Matplotlib, Seaborn, OpenCV, Flask.

Web Development: HTML, CSS, JavaScript.

Achievements

- MPST Entrance Exam – AIR 2, conducted by the Indian Association for the Cultivation of Science *2024*

Positions of Responsibility

- **Instructor at Envision, RKMRC**
  Guided tech activities during the college tech fest. *Feb 2024*
- **Organizer for Perceptron, RKMRC**
  Assisted in organizing and managing events for the tech fest. *Jan 2025*