

FALAK RANA

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Profile

Machine Learning enthusiast with hands-on experience in building and deploying intelligent systems. Skilled in designing neural networks and leveraging cutting-edge generative AI technologies, including LangChain and Ollama, to develop innovative solutions. Proficient in industry-standard frameworks such as TensorFlow and PyTorch, with a strong grasp of both Natural Language Processing (NLP) and Computer Vision applications. Experienced in optimizing models for performance and scalability, with a stable foundation in Data Structures and Algorithms (DSA) to engineer efficient solutions. Adept in working with relational databases like SQL and NoSQL systems like MongoDB, and well-versed in data analysis and visualization using Tableau and Matplotlib. Passionate about transforming data into actionable insights and building systems that drive real-world impact.

Experience

UnifiedMentor

Jan 2025-Apr 2025

Machine Learning

Remote

- Completed 6 ML projects involving data preprocessing and model development.
- Applied supervised/ unsupervised learning using TensorFlow, Scikit-learn, and Flask
- Worked with neural networks and gained practical deep learning experience.
- Projects documented on GitHub: <https://github.com/falakrana/unifiedMentorProjects.git>

Projects

Disease Prediction using ML | *React, Flask, Machine Learning, RandomForestClassifier, SVC*

- * Developed a full-stack application that predicts diseases based on symptoms using a trained machine learning model.
- * Integrated a user-friendly React frontend with a Flask backend for real-time prediction and seamless interaction.
- * GitHub: <https://github.com/falakrana/Disease-Prediction-using-ML.git>

Translator using LangChain via GROQ | *LangChain, FastAPI, GROQ, Gemma 2B*

- * Built a high-performance translation API using LangChain and Groq's LPUs for sub-second inference.
- * Utilized FastAPI for scalable delivery and integrated the Gemma 2B model for multi-language support.
- * GitHub: <https://github.com/falakrana/LangChainGROQTranslator.git>

Virtual Mouse using Eyes | *OpenCV, MediaPipe, PyAutoGUI*

- * Created a Python-based system to control cursor movement and clicks using eye tracking and blinks.
- * Combined OpenCV and MediaPipe for detection and PyAutoGUI for desktop interaction.
- * GitHub: <https://github.com/falakrana/virtualMouseDetectionUsingEyes.git>

PDF Analyzer | *LangChain, Google Gemini AI, Generative AI, Flask*

- * Developed a web-based tool that analyzes academic PDF files and answers user queries using Google Gemini and LangChain.
- * Implemented Chroma vector store with embedding support for efficient document chunk retrieval based on semantic similarity.
- * GitHub: <https://github.com/falakrana/PDF-Analyzer-GenAI.git>

Data Analysis & Visualization | *Python, Tableau, Excel, Pandas, Matplotlib*

- * Explored real-world datasets through EDA, statistical modeling, and visual storytelling using Python, Tableau, Excel, pandas and matplotlib.
- * Built interactive dashboards and reports with tools like Seaborn, Plotly, Tableau Public, and Excel pivot charts for business insights.
- * GitHub: <https://github.com/falakrana/Data-Analysis-Visualization.git>

Technical Skills

Languages: Python, SQL, Java, HTML, CSS, JavaScript
Data & Machine Learning Tools: Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow, PyTorch, Deep Learning
AI & LLM Tools: LangChain, Ollama, Hugging Face, Embeddings, Vector Databases (FAISS, ChromaDB), API handling, Transformers
Databases: MongoDB, MySQL
Visualization: Tableau, Power BI, Microsoft Excel
Libraries & Frameworks: Beautiful Soup, Flask, Django, Node.js, Express.js, React, Bootstrap, Tailwind
Version Control: Git, GitHub
Others: Data Structure & Algorithm

Professional Certifications

- * **Data Science Bootcamp** – udemy (2024)
- * **Data Visualization with Tableau** – udemy (2024)
- * **MySQL** – Cursa (2024)
- * **Excel** – Coursera (2024)

Education

Parul University (2022 - 2026)
Bachelor of Technology in Computer Science Engineering *Vadodara, India*
Relevant Coursework: Data Structures, Data Science, Machine Learning & Artificial Intelligence, Web development
CGPA: 8.3/10 (First Class with Distinction)