Mridul

E-21/67 Sector 3 , Rohini , New Delhi 110085
+91 9654252294 mridul17.work@gmail.com linkedin.com/in/mridulchdry github.com/mridulchdry17

Education

GGSIPU, Delhi **Aug. 2023 – May 2027**
Btec in Artificial Intelligence And Data Science *Delhi, India*

Relevant Coursework

- Machine Learning
- Deep Learning
- NLP
- Linear Algebra
- Artificial Intelligence
- Transformers
- Computer Vision
- Statistics

Projects

YouTube-to-Blog Generator | *Python, LangChain, RAG,FAISS* **May 2025**

- Automated the transformation of **YouTube videos into well-structured blog posts** using cutting-edge AI (LangChain, Hugging Face, FAISS).
- Tackled **token limits and boosted content quality** with smart chunking and creative prompt engineering-making long-form content creation smarter and faster.

Temperature Forecasting | *Python, RNN, Tensorflow, LSTM* **February 2025**

- Developed a temperature forecasting model using deep learning, leveraging **LSTMs** to capture temporal patterns for improved prediction accuracy.
- Processed temperature **data recorded at 10-minute intervals**, yielding 144 data points per day and a total of 1,440 data points over the first 10 days, which were used for training and forecasting.
- Implemented a **sliding window** approach to predict future temperatures while preserving temporal dependencies, with training, validation and test sets.
- Created a common-sense baseline model **(Test MAE: 2.62)**, but the fully connected **(Test MAE: 2.66)** and CNN models failed due to the loss of temporal order.
- Improved forecasting by using an **LSTM model (Test MAE: 2.60, 0.76 pct improvement over FC)** and further optimized it with **dropout regularization, reducing Test MAE to 2.47 (5.72 pct improvement over the baseline)**.

Language Model | *LSTM,IMAP,Embeddings,Dropout Regularization* **March 2025**

- Developed an LSTM-based language model trained on email data to generate coherent email-like text.
- Extracted emails via **IMAP**, preprocessed and tokenized the data, then trained a **stacked LSTM model** from scratch.
- Implemented a **text generation pipeline** predicting words based on a given seed phrase.
- Optimized performance using **embedding layers**, **dropout**, and **softmax activation** for better predictions.

FIT-U | *OpenCV, Flask, Computer Vision,Render Deployment* **December 2024**

- Developed FIT-U, an **AI-powered fitness assistant** that tracks bicep curls using real-time pose estimation.
- Extracted key posture points using **MediaPipe and processed video** frames with OpenCV to count reps.
- Built a web-based Flask application with a **responsive HTML/CSS/JS interface**, deployed on **Render**.
- **Future improvements** include multi-exercise support, AI-driven workout recommendations, and enhanced analytics.

Taxi Fare Prediction | *Python, Scikit-learn, XGBoost,Machine Learning* **November 2024**

- Built an ML model to predict NYC taxi fares using pickup and dropoff locations.
- Optimized **RMSE to 3.2 Dollar** from **7-8** using XGBoost.
- **Trained** on only **1 pec** of the dataset, **improving efficiency** without sacrificing accuracy.
- Demonstrated the power of advanced ML techniques for real-world prediction tasks.

Technical Skills

Languages: Python, SQL HTML/CSS
Technologies/Frameworks: TensorFlow, Keras, Scikit-learn, LangChain, Huggingface, RAG, XGBoost, Flask,Streamlit,OpenCV,Jinja2
Developer Tools: VS Code, GitHub, Kaggle, Jupyter Notebook,Google Colab

Leadership / Extracurricular

brAInwave AI Hackathon Finalist **Nov 2024**
Volunteer *DTU,Delhi*

- Finalist in an AI hackathon for developing a system that detects location from an image to enable efficient area cleaning, rewarding users with coupons.