Sourish Chatterjee

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Career Objective

Pre-final year Computer Science Engineering student specializing in AI & ML, with hands-on experience in LSTM forecasting, anomaly detection, and transformer models. Seeking an opportunity to contribute to innovative projects, enhance technical skills, and grow in a dynamic, learning-focused environment.

Technical Skills

Languages	:	Python , Java, C, SQL
Frameworks	:	TensorFlow/Keras, PyTorch, Scikit-learn, Pandas, NumPy
Tools & Platforms	:	Google Cloud Platform, Git & GitHub, Google Colab, Jupyter Notebook, VS Code, Excel
Data Analysis	:	Data Mining, Preprocessing, Feature Engineering, Predictive Modeling, Visualization (Matplotlib)

Projects

Decodex *PyTorch · Transformer* GitHub

- Implemented a decoder-only GPT model from scratch using PyTorch, inspired by the Transformer architecture in *Attention Is All You Need.*
- Developed multi-head self-attention, positional embeddings, and autoregressive text generation to train on character-level tokenization.
- Optimized training with AdamW and layer normalization, achieving efficient text generation from a dataset of classic literature.

Price Pulse *TensorFlow/Keras · LSTM* GitHub

- Developed an LSTM-based time-series forecasting model to predict Nifty 50 stock prices, improving accuracy over traditional regression models.
- Engineered financial features and preprocessed stock price data to enhance predictive performance, leveraging TensorFlow/Keras for model training.
- Achieved 90%+ accuracy, demonstrating the model's effectiveness in capturing temporal dependencies and outperforming baseline regression models.

NavAI-Guard *Scikit-learn · AutoencoderTensorFlow/Keras · LSTM* GitHub

- Developed an autoencoder-based anomaly detection model to analyze AIS data, identifying deviations in ship movements with high accuracy.
- Engineered data preprocessing, including feature selection (speed, heading, position) and noise reduction, improving model efficiency.
- Built a scalable deep learning architecture for real-time maritime anomaly detection, enhancing security and operational monitoring.

RagBot *Streamlit · FAISS · Hugging Face* HuggingFace

- Built a PDF-based chatbot using Streamlit that enables document QA through RAG architecture and an intuitive chat interface.
- Used FAISS and sentence-transformers for accurate semantic search over uploaded PDFs.
- Integrated distilbert-base-cased-distilled-squad for generating document-aware answers via Hugging Face Transformers.

Certifications

Google Cloud Platform Fundamentals || Generative AI Specialization by Google || MOOCs- ML & CS

Education

Meghnad Saha Institute of Technology Kolkata, WB, India
Bachelor of Technology in Computer Science Engineering with specialization in AIML *2022 – 2026*