Rajdeep Biswas

rajdeep-biswas.github.io | r4jdeepbiswas@gmail.com | +91-98741-75879 | linkedin.com/in/rajdeep-biswas

Skills

Languages	Python, Java, JavaScript
Frameworks	TensorFlow, PyTorch, SkLearn, Pandas, Numpy, MatPlotLib
Machine Learning	Deep Neural Networks, Time Series Forecasting, Transformers, LSTMs, AutoEncoders
Generative AI	ChatGPT, Prompt Engineering, LangChain, LLM APIs
Web Technology	Flask, Spring Boot, REST APIs, Google Cloud Platform, Plotly Dash
Tools	Git/GitHub + Workflows, Linux, Docker, HuggingFace, CI/CD

Experience

SAP Labs, Bangalore August 2020 - Present

Data Science

- Developed multiple Prompt Engineering-based GenAI use cases, with Large Language Models (LLM) such as ChatGPT, Anthropic, Cohere, etc. tailoring solutions to diverse customer and developer personas.
- Enhanced Anomaly Detection service accuracy by 10% through continuous model refinement. Achieved a 90% accuracy over a year of training data, utilizing LSTM Autoencoder architecture using TensorFlow with Python.
- Wrote a Time Series data preprocessing layer on top of Pandas, tailor-made for SAP internal data, improving team's developer productivity by 70%, via creating a repeatable Exploratory Data Analysis framework on Python.

Engineering

- Diagnosed and mitigated pipeline freezes during high-volume data loads (3M+ CSV records) in a Java Spring Boot microservices project. Optimized backend code, reducing downtime from 90% to <5%.
- Led efforts in the Root Cause Analysis and identified file splitting strategies, including metadata optimization and improved directory structure, resulting in improved system resilience by 75+%.
- Enhanced time-series forecasting accuracy by 20% through a detailed analysis of decomposition-based libraries like Facebook-Prophet and Microsoft's SR-CNN. Containerized models via Docker, optimizing system responsiveness by 30% for an ensemble consensus-based outlier detection service.

Leadership

- Led a team of 15 engineering interns to build a dashboard for internal usage for intern-level ERP, processes and conversion management. Delivered success within 4 months with target of 6 months.
- Introduced of data science processes, emphasizing thorough documentation, resulting in improved team structure and organized knowledge, enhancing overall efficiency and developer time by 35%.
- Pivotal role in stakeholder interaction and relationship building, actively seeking new business contacts within the company for productizing novel LLM-based GenAI usecases.

Internship

SAP Labs, Bangalore June - August, 2019

- Addressed and resolved multiple bugfixes on a ReactJS frontend, responding to and fixing internal and customer incidents and backlogs with a 30% reduction in incident resolution time.
- Enhanced accuracy of NL2SQL models by 15% through fine-tuning and transfer learning techniques on pre-trained models.
- Created an NLP Multilabel Classification pipeline with a Bidirectional LSTM architecture, achieving an 85% accuracy rate. Deployed a Flask API on CloudFoundry with multiple endpoints for inference, retraining, and model switching.

Education

Birla Institute of Technology And Science (BITS), Pilani
Master of Technology (specialization in Software Engineering)

Publications

A Comparative Study on Improving Word Embeddings Beyond Word2Vec and GloVe 2022

- IEEE International Conference on Parallel Distributed and Grid Computing (PDGC).

COVID-19 Time Series Prediction and Lockdown Effectiveness 2021

- Springer Computational Intelligence in Data Mining.