Dhrubajit Bhattacharjee

Kolkata | dhrubajitbhattacharjee01@gmail.com | +91 7439674244 | Links ↗

Experience

Jr. Software Engineer, Geogo Techsolutions - Kolkata July 2024 – Present

- Led a team for a Scanner Application that runs as a Windows service and protects data theft. This was a client project for Edelweiss Group.
- Developed an AI agent-based KYC application, integrating WebSockets for real-time communication with a Python-based ML microservice.
- Conducted a comparative study on TensorFlow.js custom models (layer and graph models) versus traditional machine learning approaches. Optimized system performance by distributing computational load between the frontend and backend, improving latency and user experience by 60%.
- Designed and implemented an ETL pipeline for a Transformer-based Automatic Speech Recognition (ASR) system, incorporating model versioning, automated training, and deployment using MLflow.
- Contributed to the development of an ML-powered API service similar to Amazon Rekognition/Textract, enabling document and image analysis at scale.

Software Engineer Intern, Geogo Techsolutions – Kolkata Sept 2022 – June 2024

- Developed a Python-based transcription tool for the testing team to convert and process audio files into text. Integrated FFmpeg for cropping audio and editing, with a React.js front-end to enhance usability. This tool streamlined data generation for ASR model training.
- Automated multiple data processing workflows using Python, reducing manual effort and improving operational efficiency for the testing team.
- Designed and built an interactive dashboard for a POS application using React.js, now deployed in 50+ retail stores across India.

Technologies

Languages: Python, SQL, Typescript/Javascript

Technologies: FastAPI, Postgres, S3, AWS, Tensorflow, Pandas, Docker

Projects

Book Recommendation with RAG Link

- I built a Retrieval Augmented Generation(RAG) system from scratch using a custom dataset from kaggle and built a gradio dashboard for showing metrics. [Python, Numpy, Pandas, Seaborn + Matplotlib]

DNA Variant Pathogenicity Prediction with Evo2 Link

- A full-stack web application(on-going) that uses the Evo2 large language model to predict the pathogenicity of single nucleotide variants (SNVs) in human genes, allowing users to explore genome assemblies, search genes, input or select mutations, and compare AI predictions with ClinVar classifications.

  [Python, FastAPI, Modal, NextJs]

Achievements

Hackathon - Diversion 2024 Link

Created, ***Cryptonite*** - An Etherium based charity donation platform for anonymity.

Education

Supreme Knowledge Foundation, B.Tech in Computer Science and Technology Sept 2020 – June 2024

- **CGPA:** 8.65/10
- **Related Coursework:** DBMS, Data Structures and Algorithms, Data Mining and Warehouse