Maurya Samanta

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Education

Jadavpur University *Sept 2022 – May 2026*
BE in Production Engineering

Salt Lake School (English Medium) *May 2022*
Class XII ISC Examination

Projects

AI-Powered People Search Engine *Demo Video* ↗
- Built a web app where users upload their LinkedIn **connections.csv**, add friends, create groups, and search within their combined networks using **natural language prompts**.
- Built a **search system** that stores connections data as **vector embeddings** and uses **cosine similarity** to efficiently find the most relevant results.
- Tools Used: **React.js, Node.js, MongoDB, Vercel, OpenAI API, Google API**.

Cloud-Based Encrypted Community App *Github Repo* ↗
- Developed a **community platform** with chat, media sharing (up to 100MB), secure authentication, and **cloud-based file viewers** to preview received files in-app without downloads.
- Implemented **asymmetric encryption** with **public key exchange**, storing **hashed keys** in MongoDB for secure chats.
- Tools Used: **React Native, socket.io, Node.js, MongoDB, Cloudinary, AWS**.

Airport Congestion Predictor *Blog* ↗ *GitHub Repo* ↗
- Built an **XGBoost classifier** to predict **airport runway and taxiway congestion** using a large flight delays dataset; performed extensive **data cleaning** and engineered features like **average taxi-out times** per time window.
- Tuned model using **GridSearchCV**, achieving **89% accuracy**, and integrated **MLflow** for experiment tracking and reproducibility.
- Tools Used: **Python, Jupyter Notebook, Pandas, NumPy, Matplotlib, Scikit-learn**.

Skills

Core Concepts: Operating Systems, Database Management Systems, Computer Networks, Theory of Computation
Languages: Java, Javascript, Python
Frameworks: React.js, React Native, Electron.js, Node.js, Django, MLflow
Libraries: NumPy, Pandas, Scikit-Learn, TensorFlow, Jupyter Notebook
Database: MongoDB, PostgreSQL
Cloud: Amazon AWS, Cloudinary, pgAdmin

Achievements

Top 10/100 teams at HackForge'24 Hackathon, Jadavpur University
Secured global rank of 56 at CodeChef Starters 136 Link ↗
Solved 300+ Data Structures and Algorithms problems across Leetcode and GFG
Top 20/50+ teams SnapSyntax'24 Contest, Jadavpur University
Java Certificate HackerRank Link ↗