Alapan Sen

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Education

- **Amity University** — Kolkata, India
  Bachelor of Technology - Computer Science; GPA: 7.30 — *July 2022 - June 2026*

Skills Summary

- **Languages**: Python , C++, JavaScript, SQL ,Bash
- **Frameworks**: ReactJs, TensorFlow, NodeJS, Bootstrap
- **Tools**: Kubernetes, Docker, GIT, PostgreSQL, MySQL, SQLite
- **Platforms**: Linux, Web, Windows, AWS
- **Soft Skills**: Leadership, Event Management, Writing, Public Speaking, Time Management

Projects

- **Earthquake-prediction-Machine-learning-model (Group Project)** **Github**:
  - Developed an earthquake detection model using machine learning techniques to predict earthquake magnitude and probability based on historical seismic data from California, United States.
  - Implemented multiple machine learning models including Linear Regression, Support Vector Machine (SVM), Naive Bayes, and Random Forest to analyze earthquake patterns and improve prediction accuracy.
  - Utilized data visualization and analysis tools such as Tableau and Python libraries (Seaborn, Matplotlib) to interpret seismic data trends, evaluate model performance, and optimize predictive capabilities.

- **E-commerce-price-prediction-model** **Github**:
  - Built ML price prediction system using XGBoost regression with 92% accuracy to optimize e-commerce pricing across 19 product categories, resulting in 15-20% higher profit margins.
  - Designed self-improving system with dynamic dataset growth, adding 10-15 competitor products with each search to continually expand the training data and improve model accuracy.
  - Engineered 15+ feature extraction pipeline including brand tier analysis, price elasticity, and seasonality factors to enhance prediction precision and market relevance.
  - Developed data visualization dashboard presenting price breakdown, market positioning, and profit projections, enabling stakeholders to make data-driven pricing decisions.

- **Carbon-Footprint-Tracker (Group Project)** **Website** — **Github**:
  - Developed the backend infrastructure for a web application that calculates carbon emissions from various vehicle models, created during Innovation Nexus Hackathon.
  - Implemented data processing algorithms to analyze and calculate vehicle emission statistics based on comprehensive research from authoritative environmental sources.
  - Built API endpoints to connect the React/Vite frontend with the backend calculation engine, enabling dynamic emission reporting.
  - Collaborated with frontend developers to ensure seamless data integration and user experience across the application.

Certifications & Professional Development

- **Web Development Certification (Skill India)**: 2023 link
- **Web Development Certification (Internshala)**: 2023 link
- **Introduction to Software engineering (Coursera)**: 2025 link
- **Cloud Bootcamp (GeeksforGeeks)**: 2023 link
- **Power Automate Cloud Skills Challenge (Microsoft Learn)**: 2024 link
- **IEEE Xplore Training (IEEE)**: 2024 link

Achievements

- **Final Round Qualifier, [A.I Quest 2.1] organised by (Amity University Noida)**: Top 20% - Advanced to finals among 500+ competing teams Proof: link
- **Second Round Qualifier, TATA Imagination Challenge (National Level)**: Advanced to 2nd round from 3,12,540+ participants nationwide (top 12%), demonstrating creative problem-solving abilities Proof: link
- **Hack-0-Mania (Smart India Hackathon College Qualifier)**: Project concept advanced to top 10 shortlist among 50 competing teams, demonstrating innovation and technical feasibility Proof: link