Mainak Chakraborty

Email: mchakrabortyofficial03@gmail.com | Mobile: +919674562005 | Linkedin: /mainak-c | Address: Kolkata, India

SUMMARY

Graduating with a **B.Tech in Information Technology** from **Netaji Subhash Engineering College**, I am driven to apply my expertise in **machine learning** and **software development** in impactful roles. As an aspiring engineer, I engage in machine learning **research**, focusing on **computer vision** tasks and **machine unlearning** systems, through innovative projects like **credit card fraud detection with SMOTE upsampling**. I am seeking to pursue my postgraduate studies in **artificial intelligence and machine learning disciplines** and contribute my **versatile skillset** in **dynamic tech environments.**

EDUCATION

B.Tech. in Information Technology | Netaji Subhash Engineering College, Kolkata | 2021 – 2025 | **CGPA** – 9.03
- **Modules:** Database Management Systems, Object Oriented Programming (Java), Operating Systems, Data Structures & Algorithms, Machine Learning, Data Warehousing & Data Mining, Calculus, Discrete Mathematics
- **Academic Projects: Software Engineering** – 'CineMatch – A Hybrid Movie Recommender Engine', **Research Methodology** - 'On the Improvement of a Global Weight Modification strategy, Quark'

EXPERIENCE

Undergraduate Student Researcher | Netaji Subhash Engineering College | Dec 2023 – Present | Kolkata, India
- Contributing to the **design** and **implementation** of an **innovative algorithm** leveraging CNNs, SVMs, and HOG based modeling to **enhance the efficiency of traditional sign language detection by approximately 20%**.
- Conducting extensive research on **machine unlearning** methodologies, systematically **identifying** and **addressing** key challenges to **enhance data privacy** and **model accuracy** within **large language models**.

Freelance Web Developer | Presidency University Student Council | Feb 2023 – Apr 2023 | Remote
- Developed, maintained and updated the event website with **real-time** information on authors, schedules, and activities, leading to a **10% decrease in customer service inquiries** and an **overall satisfaction rate of 95%** from attendees.
- Implemented SEO strategies on the event website that resulted in a **30% increase in organic search traffic** and a top-ranking position for relevant keywords, driving **more visibility** and **engagement** with potential attendees.

PROJECTS

Credit Card Fraud Detection with SMOTE upsampling | Python, Tensorflow, Statistical Methods | Github | Colab
- Devised a credit card fraud detection system using various machine learning models, achieving the best performance with the **SMOTE technique**, accurately detecting **99.67% of fraudulent transactions** while maintaining an acceptable number of false positives on a dataset of **300,000 transactions**.

DevTube – A Twitch-like platform for developers | Typescript, NextJS, Tailwind, WebRTC | Github | Link
- Designed and instituted a user-friendly interface, resulting in a **30% increase in user engagement**, and integrated advanced search functionality that **improved search accuracy by 40%.** Optimized application performance, **reducing load times by 50%**, and deployed on Vercel to ensure scalability and **99.9% uptime**.

Cryptocurrency Address Classifier | Python, NumPy, Pandas, Tensorflow, Flask | Github
- Implemented a deep learning model to classify **over 10,000 cryptocurrency addresses** with **95% accuracy**, using **feature engineering** to **enhance accuracy by 15%** and **visualizations** for data analysis with **Matplotlib** and **Seaborn**.

LANGUAGES, SKILLS AND CERTIFICATES

- **Languages:** Java, SQL, Python
- **Frameworks:** Scikit, NLTK, PyTorch, TensorFlow, Keras, Flask, Hadoop
- **Tools:** Git/Github, PostgreSQL, MySQL, SQLite, MongoDB, Apache Airflow, Kafka, Zookeeper
- **Soft Skills:** Reading, Writing, Public Speaking
- **Certificates:** DeepLearningAI Machine Learning Certification, IBM Data Science Certificate