



SAGNIK CHAKRABORTY | 20ME10073

Indian Institute of Technology Kharagpur

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EDUCATION

| Year | Degree/Exam | Institute | CGPA/Percentage |
|------|--------------------------------|--|-----------------|
| 2024 | B.Tech, Mechanical Engineering | Indian Institute of Technology Kharagpur | 9.04 |
| 2022 | Diploma, Data Science | Indian Institute of Technology Madras | 9.40 |
| 2020 | Class XII, APBIE | FIITJEE Junior College, Visakhapatnam | 9.82 |
| 2018 | Class X, ICSE | Timpany School, Visakhapatnam | 97.6% |

INTERSHIPS AND PROJECTS

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| Indian Institute of Management Bangalore Research Assistant | December 2022 – February 2023 |
| <i>Religion and public good provision utilizing data gathering, visualization, topical analysis and classification</i> | <i>Prof. Manaswini Bhalla</i> |
| <ul style="list-style-type: none">Performed web-crawling and wrangling to generate dataset with 11K+ records from dynamic webpages using scrapy and selenium frameworksUtilized GLOVE to generate word embeddings and cosine similarity metric to perform classification of institutions and extracting topicsGenerated optimum document themes using topic-modeling with frequentist visualization approach and Latent Dirichlet Allocation techniqueDeveloped robust metric by computing class distributions across various similarity thresholds and text size bins for accurate classification | |
| Netsum, Japan Data Analyst Intern | May' 2022-Jun' 2022 |
| <i>Developed dynamic web application with dashboard incorporating modules for ship condition analysis, gap analysis, and vessel risk assessment</i> | |
| <ul style="list-style-type: none">Scraped 900+ pages raw text and wrangled the data to generate datasets suitable for Machine Learning models and integration in web GUIUtilized transformer architecture based sentence similarity models to rank and allocate over 300 inspection questions for 900+ client vesselsOptimized and streamlined the analysis of Ship examination data by generating dynamic visualizations and reports using ChartJs and Django | |
| Personal Face Recognition Model | Feb' 2022-Mar' 2022 |
| <ul style="list-style-type: none">Generated batches of positive pairs using OpenCV integrated with webcam and negative pairs using the labelled faces in the wild datasetImplemented and trained the Siamese neural network architecture in TensorFlow using custom layer to obtain an overall recall score of 98%Developed and deployed a real-time face recognition application using Kivy and OpenCV frameworks in conjunction with the trained model | |
| Deloitte, MachineHack Loan Default Prediction | Nov' 2021-Dec' 2021 |
| <ul style="list-style-type: none">Performed exploratory data analysis and feature engineering on Loan defaulters dataset with over 65,000 records and over 30 featuresImplemented Random Forest algorithm on regular data as baseline and oversampled data using SMOTE to address the class imbalanceSuccessfully achieved an average F1-score of 0.81 for the trained classifier after hyperparameter tuning by applying randomized search CV | |

COMPETITIONS

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| Cisco Convolve Hackathon Warehouse Inventory Binning | December 2022 – January 2023 |
| <ul style="list-style-type: none">Successfully finished as the top 10 finalists out of more than 300 competing teams across three rounds using novel techniques for the solutionUtilized Rolling average to smoothen data and outlier treatment followed by product-category wise data segregation to build individual modelsPerformed ensembling on models including Holt, Holt Seasonal, TBATS, Exponential Smoothing and binning for forecasting periodic inventory | |
| Sigmoid Data Science Hackathon CPG Demand Forecasting | September 2022 – November 2022 |
| <ul style="list-style-type: none">Excelled in a highly competitive hackathon that spanned three stages, securing the impressive third position out of 150+ participating teamsUtilized Fast Fourier Transform to smoothen data with outlier treatment and performed ware-house segmentation to build individual modelsPerformed time series forecasting with an ensemble of models including Prophet, Transformer, TBATS and achieved a WMAPE of 0.26 | |

SKILLS AND EXPERTISE

- Programming Languages:** C | C++ | Python | HTML5 | CSS | Postgres SQL | Javascript | MATLAB
- Libraries/Frameworks:** Numpy | Pandas | Matplotlib | Scikit-learn | SciPy | TensorFlow | Django | Flask

COURSEWORK INFORMATION

- Academic Courses:** Linear Algebra | Introduction To Financial Management | ML Foundations and Applications | Transform Calculus | Programming and Data Structures | Entrepreneurship Essentials
- Online Courses:** Machine Learning (Coursera) | Deep Learning Specialisation: Convolutional Neural Networks | Sequence Models (Coursera) | Probability and Statistics (IITM Online) | Business Analytics (IITM Online)

POSITIONS OF RESPONSIBILITY

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| Student Member Kharagpur Data Analytics Group, IIT Kharagpur | May'19 - July'20 |
| <ul style="list-style-type: none">Contributed to articles and posters in the Technology Creative Team for the pan India hackathon and achieved participation of 1800+ studentsManaged a team of 25 members and organized workshops on Python fundamentals and Machine Learning with participation of 150+ studentsContributed to a blog on Decision Trees and cost complexity pruning(now published on Medium) in collaboration with a team of 5 members | |
| Secretary Communique Technology Students' Gymkhana IIT Kharagpur | Jan' 2021-Mar' 2022 |
| <ul style="list-style-type: none">Supervised a team of 30+ members and organized over 3 panel discussions and workshops with a footfall of over 100 students and academiaManaged the Placement Drive comprising Mock GDs, PIs and contributed to organizing a pan India Aptitude Test with a massive participationContributed to the development of a blogging web page and updated sections of the official society website as a part of the society web team | |

EXTRA CURRICULAR ACTIVITIES

- Student Volunteer | NSS IIT Kharagpur*
- Developed webpage and designed posters containing resources for medical emergencies and general awareness during the Covid pandemic
 - Assisted children during the Lock-down with academic resources, activities, mental health awareness and online well-being sessions