



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH	IIT Kharagpur	9.52 / 10
2021	B.TECH	The LNM Institute of Information Technology	7.58 / 10
2016	Senior School Certificate Examination	CBSE	89.2%
2014	Secondary School Examination	CBSE	10 / 10

INTERNSHIPS

ISRO, SAC, Ahmedabad | Research Intern [May '23 - Jul '23]
Trends in Significant Wave Height based on Satellite Altimeter observations
| X-array | Python | NumPy | Pandas | Seaborn | Matplotlib | Basemap
• Performed EDA and feature engineering on satellite data (AVISO and IFREMER), and dealt with missing values using imputation techniques.
• 20-years time series were plotted using X-array, Matplotlib, and Basemap reveals a rising trend in SWH (**4-5cm/year**) from 2003 to 2021.
• Seasonally analysed the data and used Linear Regression and the **MK-Test** to discover significant patterns in different seasons.

PROJECTS

Trend Analysis of SWH, Wind Patterns and Their Future Projections [Aug '23 - Present]
| M.Tech Thesis | Prof. Pranab Deb, CORAL, IIT KGP
• The main objective of this project is to analyse wind patterns that can validate our SWH trends for Indian Ocean region (Ocean Basins).
• Conducted EDA on Wind Data, while currently leading the development of a **CNN** algorithm for downscaled climate data projections.

Gap Filling of Monthly Sea Level Data using Artificial Neural Network [Sep '22 - Nov '22]
| Machine Learning | ANN | EDA | Prof. Mihir Kumar Dash
• The main objective of this project was to develop an ML model that can predict and fill the gap in the MSL dataset (East Coast of India).
• Conducted exploratory data analysis to extract valuable insights from MSL data and identify key parameters, aided in the prediction of future sea-level rise, got accuracy of **82%**.

Duplicate Question Pairs Detection [Feb '23 - Apr '23]
| SVM | Decision Tree | NLP | EDA | TF-IDF
• Developed a Duplicate Question Pair Detection system using advanced NLP techniques, such as TF-IDF, to measure semantic similarity.
• The algorithms used were Support Vector Machine, Decision Tree, Random forest, and XGBoost and the models were evaluated using Confusion Matrix and Accuracy score where XGBoost outperformed with an accuracy of **78%**.

Advanced Detection System for Credit Card Frauds [Mar '23 - Apr '23]
| Gradient Boosting | SVM | Logistic Regression | Jupyter Lab
• Developed a resilient system using anomaly detection and classification strategies in identifying suspicious transaction patterns.
• Demonstrated remarkable precision and recall by mitigating data imbalance, resulting in a precision score of **0.98** and a recall score of **0.75**.

SKILLS AND EXPERTISE

Programming Languages: C/C++, Python **Technical Knowledge:** Machine Learning, Deep Learning, Natural Language Processing
Frameworks and Libraries: NumPy, Pandas, Matplotlib, Seaborn **Softwares:** Visual Studio Code, Jupyter, Microsoft Excel, MySQL

COURSEWORK INFORMATION

Data Analytics Lab | Design Lab | Statistical and Machine Learning Methods | Simulation Lab | Computational Methods | Satellite Remote Sensing | Atmospheric Dynamics | Carbon Cycle and global climate change | Fundamental of oceanic atmospheric science | DSA | CP

AWARDS AND ACHIEVEMENTS

- **Branch Rank 1:** Achieved the highest GPA in the Earth System Science and Technology (M.Tech) branch during my first year.
- **GATE XE- 2022:** Secured **AIR 576**, placing in the **98.59th** percentile, denoting outstanding achievement.
- **SOF 2017:** Achieved a **City Rank of 3**, a **State Rank of 151**, and an All India Rank (**AIR**) of **908** in SOF.

POSITIONS OF RESPONSIBILITY

Teaching Assistant | CORAL, IIT Kharagpur | Prof. Pranab Deb [Aug '23 - Present]
• Working as a teaching assistant of "**DATA ANALYTICS LAB**", conducting hands-on lab sessions and demonstrating climate dataset work.

ASME and SAE | Member [Aug '17 - Aug '18]
• Provided guidance and mentorship to 60 incoming freshmen, adapting to the institute's environment and facilitating academic support through mentor meetings.

CERTIFICATIONS

Python Certificate | HackerRank | : Showcased solid Python fundamentals by passing HackerRank's basic Python test successfully.
SQL Certificate | HackerRank | : Showcased solid SQL fundamentals by passing HackerRank's basic and intermediate SQL test.

EXTRA CURRICULAR ACTIVITIES

SANKALP CLUB | Member - Empowered over 100 underprivileged children from a nearby village by providing education, while also organizing Dance, Art, Music, and Computer training programs for holistic development.
MEDIA CELL | Member - Proficient in crafting expressive poetry, leveraging language to create emotive and impactful verses.