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PALLABI MANNA | 22CL60R07

EARTH SYSTEM SCIENCE AND TECHNOLOGY



## EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH	IIT Kharagpur	8.74 / 10
2021	M.Sc.	MIDNAPORE COLLEGE	9.08 / 10
2019	B.Sc.	MIDNAPORE COLLEGE	82.25%
2016	HIGHER SECONDARY EXAMINATION	WEST BENGAL COUNCIL OF HIGHER SECONDARY EDUCATION	91.60%
2014	SECONDARY EXAMINATION	WEST BENGAL BOARD OF SECONDARY EDUCATION	93.60%

## INTERNSHIPS

**Product Development Intern at IDA Business Solution Pvt. Ltd.** [May'23 -July'23]  
**Integrated Piping System Optimization**

- Built a program for optimizing integrated piping systems, eliminating intersections, resolving overlaps, enforcing fixed perpendicular spacing in both bendable and T-shaped configurations.
- Successfully achieved **90%** test case validation.

Tools/Technologies Used: **C#, Visual Studio, GeoGebra**

**Obstacle-Aware Shortest Path Finder for Connector Grids**

- Developed an algorithm to find the shortest path between two connectors in a grid, accounting for obstacles.
- Leveraged Breadth-First Search (BFS) for pathfinding, enhanced efficiency by **46.66%**.

Tools/Technologies Used: **C#, Visual Studio**

**Annotation Layout in 3D Space**

- Implemented Hedgehog Labelling view management techniques for external labels in 3D spaces for **60%** test cases.

Tools/Technologies Used: **C#, Visual Studio, Unity**

## PROJECTS

**Gap Filling of Monthly Sea Level Data using Artificial Neural Network** [ Nov-2022 ]

Course Project | Prof. Mihir Kumar Dash, Dept. of CORAL, IIT Kgp

- Implemented a Neural Network Model to address data gaps and achieved an R-squared score of **0.6734**.

Tools/Technologies Used: **Python, Jupyter, Excel, Google Sheets**

**Liver Disease Prediction**

[Jan'23-Apr'23]

Self Project

- Implemented **AdaBoostClassifier** and **RandomForestClassifier** for model training.

- Performed **GridSearchCV** for hyperparameter tuning.

- Best Precision scores with log normalized skewed features are -AdaBoost: **0.78**, RandomForest **0.76**.

Tools/Technologies Used: **Python, Jupyter, Excel, VS Code**

## SKILLS AND EXPERTISE

**Programming Languages:** C, C++, C#, Python

**Technical Knowledge:** Machine Learning, SQL, OOPs

**Libraries:** Numpy, Pandas, Matplotlib, PyTorch, Keras

## COURSEWORK INFORMATION

Data Analytics | Linear Algebra | Statistics | Design Lab | Satellite Remote Sensing Exploration of Ocean and Climate | Statistical and Machine Learning Methods in Water Resources Engineering | Computational Methods | Geophysical Fluid Dynamics | Carbon Cycle and Global Climate Change | Coastal Process

## CERTIFICATIONS

- Python Data Structures | Great Learning Academy-2023

- Database Management System | Great Learning Academy-2023

## AWARDS AND ACHIEVEMENTS

- Qualified Joint CSIR-UGC Test-2020 for eligibility for **Assistant Professor** in Mathematical Sciences.

- Secured All India Rank of **92** in GATE MA-2022 examination.

## WORK EXPERIENCES

- Completed 7-Day Challenge as a tutor in Mathematical Sciences on Course Hero.

- Active tutor at Chegg, Helloexperts in Mathematical Sciences, solved **800+** problems.