



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH	IIT Kharagpur	9.49 / 10
2020	Mechanical Engineering	Andhra University	8.49 / 10
2016	Intermediate	BIEAP	98.1%
2014	SSC	BSEAP	9.3 / 10

INTERNSHIPS

- A Study on Atmospheric Rivers over Northern Indian Ocean during Summer Monsoon Season** | Dr. Unnikrishnan C K
National Centre for Earth Science Studies NCESS | Kerala | ERA5 | Interim Reanalysis Data | Data visualization | May 2023 - July 2023
- Applied IVT Intensity and NOAA IWV criteria to effectively identify and visualize core regions of SMT in the Arabian Sea and BoB.
- Implemented *Threshold analysis and Climatology techniques*. Constructed time series plots to demonstrate the SMT core region.

PROJECTS

- Solar Irradiance and Cloud Motion Vector estimation for Short term weather prediction** | Prof. Arun Chakraborty | CORAL
MTech Thesis Project | Archived Visible Channel images data | A Novel High Resolution Method | CNN | ML | Aug 2023 - Apr 2024
- Leveraging ML on archived *visible channel images* to improve weather forecast precision and integrating CNN into weather prediction.
- A Novel Approach poised to elevate *STWP accuracy*, offering advancements in enhanced *Solar irradiance and CMV estimation*.
- Comparison btw. predicted region of interest by the proposed method and real cloud position with *Mean, SD and Similarity Coefficient*.
- Balance Scale using Decision Tree based Learning Model** | Dr. Aritra Hazra | Department of CSE | IIT Kgp
Supervised Machine Learning | Decision Tree Classifier | Spring 2023 | Jan 2023 - Feb 2023
- Utilized the *ID3 Algorithm* to construct a DT model using a dataset of Psychological experimental results | classify into 3 distinct classes.
- Implemented the *DT Classifier*, Evaluated its Performance using key metrics like Precision, Recall, F1, *Accuracy(69.72%)* across 5 data folds.
- Conducted a comparative analysis between our model and the Decision Tree model from the *Python Scikit-Learn library(81.6% Acc.)*.

- Gender Recognition using Support Vector Machines** | Dr. Aritra Hazra | Department of CSE | IIT Kgp
Supervised Machine Learning | Support Vector Machines | Spring 2023 | Feb 2023 - Mar 2023
- Analyzed a dataset of 3,168 voice samples | *Train, Validation, and Test sets* | 70:10:20 | M/F | speakers through acoustic attributes.
- Utilized *PCA and LDA* for 2D and 1D feature space reduction with *61.19 and 57.72 Accuracy*. Trained *SVM classifier* on reduced data.
- Achieved enhanced Gender Classification efficiency using refined model. *Advanced dimensionality reduction | precise kernel selection(rbf)*.

- Preferences Match using Single Linkage Agglomerative (Bottom-Up) Clustering Technique** | Dr. Aritra Hazra | CSE | IIT Kgp
Unsupervised Machine Learning | K-means | Hierarchical Clustering Algorithms | Spring 2023 | Mar 2023 - Apr 2023
- Created distinct clusters based on individual preferences as feature data. Utilized *Jaccard similarity(0.42)* metrics for cluster similarities.
- Normalization, due to the presence of empty cells and Employed *K-means and Hierarchical clustering Alg.* for optimal cluster formation.
- Measured *SC(0.193)*, utilizing *Cosine similarity* to assess the quality of clustering, determined *k optimum as 4* and a significant overlap.

TRAINING

- Essentials for NX Designers Course** | APSSDC | SIEMENS | DesignTech | Mar 2018
- Getting to know the *NX interface* | Major commands used are *Sweep, Trim, Holes, Shell, Blend*, features etc | Modifying the Geometry.

CERTIFICATIONS

- Stanford | Online | DeepLearning.AI** | Supervised Machine Learning: Regression and Classification | GD | Coursera | Aug 2023
- IBM | Data Analysis with Python** | Data wrangling | EDA | Model Development, Evaluation and Refinement | Coursera | Jun 2023
- Vanderbilt University | Intr. to Programming with MATLAB** | Operators, Functions, Loops, Data types, File I/O | Coursera | Jul 2023
- Codio | Select Topics in Python: Matplotlib** | Box plots, Histograms, Line, Area, Scatter, Pie, Donut, Violin Charts | Coursera | Jun 2023
- Data Analytics Lab** | Pptn, SST Anomaly | *CMAP Pptn data* | *Hadly SST data* | Linear Trend in seasonal variation | Dr. Pranab Deb | Autumn 2022

SKILLS AND EXPERTISE

- Programming Languages:** C | Python
- Packages:** Numpy | Pandas | Matplotlib | Scikit learn | Seaborn | Tensorflow | Pytorch
- Data visualization tools and Miscellaneous:** Excel | Powerpoint | Word | Catia | Panoply | Origin | Matlab
- Language course:** German Language course | A1 | DAAD KOSPIE Student | German | Sept 2023
- Soft Skills:** Adaptability | Interpersonal skills | Curiosity | Domain Knowledge | Patience | Continuous Learning

COURSEWORK INFORMATION

Machine Learning | Data analytics in Earth System Sciences | CMESS | Probability and Statistics | Linear Algebra | Calculus | Simulation lab for Atmosphere and Ocean Dynamics | SRSE | Atmospheric Dynamics | Physics of climate system | Geophysical Fluid Dynamics

AWARDS AND ACHIEVEMENTS

- DAAD KOSPIE Fellowship 2023 - 24** | MTech Thesis | Leibniz University Hannover | Germany | Sept 2023-Mar 2024
- Qualified **GATE Exam 3 times** in a row with maximum of **96 percentile** | 2020 | 2021 | 2022
- Secured a remarkable **3rd position** in the Mechanical Engineering academic standings during my BTech tenure | 2020
- PRATIBA Award** | Awarded for academic performance by MANAJANAM Group | 2015

EXTRA CURRICULAR ACTIVITIES

Playing Cricket | Volleyball | Running | Cycling | Calligraphy | Devotional activities | Listening to music