UJJWAL BERA | 22CL60R18

EARTH SYSTEM SCIENCE AND TECHNOLOGY

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	M.TECH	IIT Kharagpur	8.11 / 10
2017	B.Tech	College Of Engineering & Management Kolaghat	8.5 / 10
2013	Higher Secondary Examination	West Bengal Council Of Higher Secondary Education	76.8%
2011	Secondary Examination	West Bengal Board Of Secondary Education	84.1%

INTERNSHIPS

Data Science Intern I Flutura Business Solutions Pvt. Ltd Bangalore (May'23 - July'23)

- Building the failure prediction models for rotary equipments for a Middle East client using Isolation Forest and Random Forest.
- Working on model testing on real time data and model deployment of multiple machine learning models
- Creating Digital Twins by doing configuration for equipment used in the Oil & Gas industry on Industrial AI Platform Cerebra.

WORK EXPERIENCES

Lecturer I Bishnupur Public Institute Of Engineering (Jun' 18 - Nov' 21)

- Lecturer in Mechanical Engineering Department at Bishnupur Public Institute Of Engineering

PROJECTS

Compound Extreme Event Analysis Using Statistics and Probabilistic Machine Learning Model (Thesis Project) (Aug'23 - Ongoing)

- Collect meteorological data over India from IMD and identifying extreme events by setting threshold 90% on temperature and rainfall.
- Implemented statistical analysis and machine learning techniques to quantify the frequency and intensity of extreme weather events.

Language Detection Using Fine-Tuned BERT Model (Self Project) (July'23 - Aug'23)

- Developed a state-of-the-art NLP model for predicting 17 different languages using the XLM-Roberta-Base transformer architecture.
- Achieved an exceptional model accuracy of over 95% for all target languages, surpassing the project's stringent quality requirements. (**Github link** :https://github.com/ujjwalbera1996/Language_detection_using_finetuned_BERT)

Multiple Disease Prediction System (Self Project) (Jan'23-Mar'23)

- Developed a robust Multiple Disease Prediction System integrating SVM and Logistic Regression models to predict diseases.
- Model achieved impressive accuracy rates on the test set: 78% for Diabetes, 82% for Heart Disease, and 87% for Parkinson's Disease
- Designed a deployment pipeline that loads the optimized models and interfaces with user inputs to provide real-time predictions. (**Github link** :https://github.com/ujjwalbera1996/Multiple_Diesease_public_ml_web_app)

CERTIFICATIONS

Generative AI with Large Language Models (Deeplearning.AI)

- Prompting and Prompt Engineering, Catastrophic Forgetting, Fine-Tuning, PEFT, RLHF, Applications, Program-Aided Language Model

Machine Learning Specialization (Deeplearning.AI)

- Linear Regression, Logistic Regression, Recommender Systems, Decision Trees, Xgboost, Tree Ensembles, Reinforcement Learning

Deep Learning Specialization (Deeplearning.AI)

- ANN, CNN, RNN, LSTM, Object Detection and Segmentation, Hyperparameter Tuning, Optimization, Bleu Score, Facial Recognition System

Natural Language Processing Specialization (Deeplearning.AI)

- Word Embeddings, Locality-SensitiveHashing, Vector Space Models, Attention Mechanism, BERT Model, Siamese Networks, Transformer

Probability & Statistics For Machine Learning and Data Science (Deeplearning.AI)

- CDF, Chi-Squared Distribution, Skewness and Kurtosis, Maximum Likelihood Estimation, Z Distribution, t-Distribution, A/B Testing.

AWS Cloud Practitioner Essentials (AWS)

- Cloud Computing Security, Cloud networking, Storage &Databases, Monitoring & Optimization, Migration and Innovation, Pricing

The Structured Query Language (SQL)

- DDL, DML, Inner Join, Outer Join, Group function, Subquery, Unique Keys with Identity, Case Operator, Cartesian Product, Relational DB

SKILLS AND EXPERTISE

Programming Languages : Python, SQL I **Analytical** : Excel, Power BI
Libraries & tools : Numpy, Pandas, Matplotlib, Scikit-learn I **Framework Used** : Tensorflow, Keras

COURSEWORK INFORMATION

Core Subjects: Satellite Remote Sensing | Geophysical Fluid Dynamics | Carbon Cycle & Global Climate Change | Coastal Process
Computational: Statistics & Machine Learning | Data Analytics | Computational Methods I Simulation Lab

EXTRA CURRICULAR ACTIVITIES

Involving in various social activities like arranging blood donation camp and engaged with Ramkrishna Mission.
Playing Football, Cricket, Badminton and Singing

!Self declared by the student, CDC could not verify the relevant documents