Prateek Gupta

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WORK EXPERIENCE

Statkraft India	**Saket, New Delhi**
Consultant Energy Management	Aug'23 - Present

DAM (Day-Ahead Market) Electricity Price Forecasting
- Developed a multi-variate day-ahead market electricity price forecasting model using LSTM.
- Collected data, performed exploratory data analysis, data cleaning and engineered features using libraries such as pandas, matplotlib, numpy, and scikit-learn.
- Trained and evaluated several models, selecting the best based on R^2 score and MAPE, achieving a MAPE of 5-10%.
- Potentially reduced forecasting error to less 5%.

Day-Ahead Inflow Forecasting for a Hydro Power Plant
- Collaborated closely with the energy management team to build an LSTM-based model for day-ahead inflow forecasting.
- Utilized libraries: pandas, NumPy, matplotlib, seaborn, and scikit-learn for data handling and visualization, and Tensor flow and Keras for model development.
- Conducted data preprocessing, including missing value treatment, outlier detection, and input-output sequence creation; built and trained a Sequential model with LSTM and selected the one with least MSE.
- Managed daily forecasting tasks, continuously worked on reducing forecast deviation that was reduced up to 2%, and developed a new model integrating weather data.

Data Management and Analysis for Energy Sector
- Performed market analysis on India's electricity demand and supply, including peak demand/supply analysis, historical trends, year-over-year growth, deficit, and sector-wise analysis.
- Conducted Qualitative Comparative Analysis on DSM data analyzing the impact of regulatory changes.
- Cross-functionally collaborating closely with teams to assist in data collection, cleaning, and processing.

INTERNSHIP

Statkraft India	**Saket, New Delhi**
Intern Energy Management	Feb'23-July'23
Harvesting India Private Limited	**Punjab, India**
Market Research Analyst	May'22-July'22

SELF PROJECT

Credit Card Fraud Detection
- Conducted Exploratory Data Analysis (EDA) and differentiate between fraudulent and non-fraudulent transactions.
- Generated heatmaps, assessed skewness, and standardized attribute to facilitate model building.
- Consolidated scaled columns, created sub-samples, and executed dimensionality reduction techniques.
- Implemented various classification algorithms including Logistic Regression, K-Nearest Neighbors (KNN), Decision Tree Classifier, Support Vector Machine (SVM), and Random Forest Classifier.
- Validated the models utilizing k-fold cross-validation, assessing performance using ROC_AUC scores as the evaluation metric.

EDUCATION

Indian Institute of Technology	**Kanpur, India**
MTech in Industrial and Management Engineering (CPI: 7.69)	2021-23

- (Coursework: Probability and Statistics |Statistical Modelling for Business Analytics |Applied Machine Learning |Market Research| Data Mining and knowledge Discovery)

U.P. Textile Technology Institute	**Kanpur, India**
BTech in Textile Engineering (CPI: 8.58)	2017-21
SRD SR SEC SCH	**UP, India**
Intermediate (88.6%)	2016
SRD SR SEC SCH	**UP, India**
High School (CGPA: 9.2)	2014

CERTIFICATIONS AND SKILLS

Certified Courses	Python Essential Training |Data Analysis Real-World-Use-Cases-Hands-on Python |Excel Skills for Business Essentials| Ultimate Python Bootcamp for Data Science & Machine Learning| PowerBI Zero to Hero	Recurrent Neural Networks
Technical Skills	**Python** (NumPy, Pandas, Scikit-Learn, Matplotlib, Seaborn) |**SQL** |**EXCEL** |**Power BI**|| Machine Learning	Natural Language Processing	Statistical Analysis
Soft Skills	Effective Communication |Critical Thinking| Collaboration |Ownership |Adaptability

ACHIEVEMENT AND EXTRACURRICULAR ACTIVITIES

- Secured **AIR-18** in Gate (TF) — 2021
- Presented a poster in "National Conference on Contemporary Issues in Textile Manufacturing Process from Fibre to Garment" (TEXCON) — 2020
- Presented a poster in "International Conference on Advances in Textiles Materials & Processes" ATMP — 2019
- Secured 3rd Position In "Logo Design" on Innovation Day at UPTTI Kanpur — 2019
- Earned a Certificate of Selection in Social Media Marketing — 2019