Anshu Anand

Data Scientist

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Dedicated and results-driven Data Scientist with 8 years of comprehensive industry experience and 4 years of specialized experience in statistical analysis, machine learning, and data visualization. Proven track record of delivering actionable insights to drive business growth and innovation. Expertise in developing predictive models and conducting advanced data analyses to solve real-world problems. Seeking to leverage my skills to contribute to a dynamic team in a challenging position.

Skills

Functional Competencies

Data Analysis, Statistical Analysis, Predictive Modelling, Feature Engineering, Credit Risk Modelling, Sales Forecasting, Time Series Analysis, Model Evaluation (Accuracy, Precision, Recall, F1-Score, MAE, MSE, RMSE), Business Alignment, Cross-functional Collaboration, Data-driven Decision Making, Exploratory Data Analysis (EDA), Data Cleaning, Data Preprocessing, Stakeholder Communication, Agile & Scrum Methodologies.

Technical Tools

- Programming & Database: Python, MySQL
- Machine Learning & Statistical Techniques: Linear & Logistic Regression, Decision Trees, Random Forest, Gradient Boosting, Ensemble Methods, ARIMA, Exponential Smoothing
- Data Manipulation & Libraries: Pandas, NumPy, scikit-learn, StatsModels
- Data Visualization & Analytics: Power BI, Matplotlib, Seaborn, Jupyter Notebook, VS Code
- Version Control & Others: Git, Excel

Experience

Tata Consultancy Services Ltd. *Sept 2016 - Present*

Data Scientist *May 2021 - Present*

- Led the development of machine learning models, improving prediction accuracy by 15%.
- Conducted data cleaning, preprocessing, and exploratory data analysis to uncover insights from large datasets.
- Implemented statistical analysis and predictive modelling techniques using Python, SQL, and Azure Synapse Analytics for scalable data processing.
- Collaborated with cross-functional teams to integrate data science solutions into business processes through Azure Cognitive Services, enhancing decision-making capabilities by leveraging cloud-based AI tools.

Full Stack Web Developer *Sept 2016 - Apr 2021*

- Developed and maintained high-performance web applications using Java and ASP.NET.
- Optimized web application performance, leading to an increase in user engagement.
- Automated deployment processes and ensured software quality through rigorous testing and code reviews.
- Mentored junior developers and provided technical guidance to the team.

Projects

Loan Assistant Chatbot

- Integrated the chatbot with backend systems to retrieve real-time updates on loan application status, enabling users to track their application progress without direct bank intervention.
- Used generative AI (GPT-4) to interpret the results of the credit risk model developed to evaluate applicant risk profiles (e.g., credit score, debt-to-income ratio, employment status) and deliver explanations about the user's approval chances in plain language, including factors influencing risk assessment and possible areas of improvement

Credit Risk Modelling

- Developed a comprehensive credit risk model to assess the probability of default (PD) for a financial institution's loan portfolio.
- Utilized logistic regression, decision trees, and ensemble methods resulting in a 20% reduction in loan defaults.
- Conducted feature engineering to incorporate relevant variables, enhancing model performance by 15%.
- Evaluated model performance using metrics like accuracy, precision, recall, and F1-score.
- Collaborated with data scientists, risk analysts, and business stakeholders to refine model specifications.
- Communicated findings to senior management, facilitating data-driven decisions.

Sales Forecasting

- Led the development of sales forecasting models using random forests, gradient boosting to predict sales volumes.
- Implemented time series analysis techniques (ARIMA, exponential smoothing), enhancing forecast accuracy by 18%.
- Extracted predictors including seasonality, promotional events, and market dynamics, enhancing model accuracy.
- Developed machine learning models, achieving a 12% reduction in Mean Absolute Error (MAE).

Cash Outflow Forecasting

- Developed robust cash outflow forecasting models using time series techniques to predict financial expenditures.
- Implemented machine learning algorithms, including ARIMA and exponential smoothing, improving forecast accuracy by 30%.
- Identified key predictors such as transaction patterns, vendor payment cycles, and seasonal variations, enhancing model precision.
- Supported deployment team in implementing the forecasting models in production, achieving a 25% reduction in forecast error and enabling better liquidity planning.

Education

IIT Kharagpur AI4ICPS I Hub Foundation

July 2024 - Present

- Hands-on Approach to AI for the Real-world Applications (HAAI)

West Bengal University of Technology

2012 - 2016

- Bachelor of Technology in Computer Science & Engineering
- CGPA: 7.4