Sasmita Dash

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**Summary:**

* 15 years of IT Experience with extensive software development experience in Quantitative Data Analysis, Machine Learning in Finance, Technology, Retail, and Telecommunication domain.
* 6+ years of experience in Data Science, Machine Learning and Artificial Intelligence.
* Experience extracting and manipulating large data sets.
* Experience translating unstructured, structured, and semi-structured data into actionable insights for decision-making.
* Knowledge of an array of research methods and the ability to analyze/interpret complex research findings.
* Experience writing code (SQL, Python, R) to extract, clean, analyze and visualize data.
* Statistical Knowledge of Regression models, Forecasting and Predictive modeling.
* Experience developing supervised, unsupervised and Time Series forecasting models to do predictions at micro and macro level of business for different use cases and scenarios.
* Extensive experience in working in an end-to-end ML project independently.
* Great understanding of the agile development process.
* Sound knowledge of building and deploying models/applications through cloud environments.
* Experience in Business Intelligence tools.
* Written and verbal communication skills with the ability to translate complex issues for a wide audience

**Technical Skills:**

Data Science | Machine Learning | Deep Learning | Data Analysis | Big Data | Python | SQL | Tableau | Model Development & Validation | Digital Analytics | Financial Analytics | Business Intelligence | NLP | Gen AI

**Education:**

Master of Technology – Applied Optics, Indian Institute of Technology (IIT), India.

Master of Science, Physics, Utkal University, India.

**Certificates:**

* IBM Data Science Professional Certificate (Project on Web Scraping. Regression, Classification, Clustering, Recommender Systems)
* Python 3 Programming (Project on Sentiment Analysis, Video games, Optical Character Recognition (OCR), PILLOW, TESSERACT and OpenCV), University of Michigan.
* Digital Product Management: Modern Fundamentals
* High-Stakes Communication

For detailed certification information, please visit my LinkedIn profile: **[http://linkedin.com/in/sasdash-0917]**

**Professional Experience:**

**Reliant Vision Group Inc, Metuchen, NJ 10/01/2020 till date**

**Verizon Communications, Basking Ridge, NJ 07/2022 till 01/2025**

**Principal Data Scientist**

**Responsibilities:**

* Worked on an energy efficiency, energy prediction & energy outlier detection project to model the appropriate energy consumption for wireless cell sites using equipment and usage telemetry data from a variety of sources.
* Developed anomaly detection models using LSTM Autoencoders, Isolation Forest, XGboost, Gradient boosting quantile regression and CatBoost Quantile Regression to identify abnormal energy consumption patterns, improving energy efficiency by 18%.
* Developed root-cause analysis modules built on anomaly detection to identify consumption deviations and trigger field operations for site maintenance and remediation. Integrated SHAP for model interpretability, providing insights into key factors driving anomalies.
* Developed and optimized churn prediction models using classification algorithms (LGBM, Random Forest, Logistic Regression), increasing model accuracy by 10% for anomalous cell sites. Enhanced predictive capabilities through feature engineering and hyperparameter tuning, enabling proactive customer retention strategies and reducing churn.
* Applied LLM and NLP techniques to analyze customer feedback, extracting actionable insights into behavior and sentiment. Improved churn prediction models by integrating these insights, refining retention strategies, and enhancing customer satisfaction and model performance.
* Leveraged Tableau and Looker to create powerful, interactive visualizations that transform complex data into actionable insights for data-driven decision-making.

**Environment:** Python/SQL, GCP, Domino platform, GitLab, Airflow, GCS, Docker, Kubernetes, Visualization (Tableau, Looker, Data Studio)

**Microsoft, Redmond, WA 08/2021 - 06/2022**

**Sr Data Scientist**

**Responsibilities:**

* Worked on Volume Forecasting (Demand and Workload)/WFM project to create a scalable machine learning system that will model and forecast customer support demand for a variety of Microsoft Products and Lines of Business. The objective is to forecast accurately for better resource planning in advance.
* Current platform has implemented change point detection, custom ensemble of models, dynamic ensemble of models, normalization, external categorical/continuous regressors, recurring holiday events, baseline adjustment, NRE adjustment and weighted average concept to forecast accurately at different bias adjustment windows.
* Forecasting produces forecast for every time series in the training data using different models like Auto ARIMA, StlArima, ETS, DLM, GLS, GLM, TBATS, TSLM, SVR, Random Forest, LGBM, XGBoost and different evaluation metrics like MAE, MAPE, WAPE, WMAPE, RMSE. Forecast creates ensemble time series, ensemble, ensemble all, custom ensemble, and dynamic ensemble models out of these 12 models based on seasonality, time series model, external regressors and prediction interval.
* Utilized interactive visualizations with Bokeh, Plotly, and PowerBI to create dynamic insights for various stakeholders and use cases.

**Environment:** Python/R, SQL, Power BI, Azure SQL Database/Microsoft SQL Server Management Studio, Azure blob storage, Azure Data Factory, Azure batch, Azure monitor, Azure Kubernetes Services

**Google, Dallas, Texas 01/2021 - 07/2021**

**Sr Data Scientist**

**Responsibilities:**

* Worked on a PPE kit forecasting project during COVID times at the county level of California state. The objective of this project is to forecast at scale at micro and macro level of business for different forecasting horizons and forecasting frequency.
* Prioritized Data Sources from a variety of sources and created a PPE forecasting model that supports data-driven decisions at the county level of California State. Used data-generated insights, for expedited forecast accuracy for PPE demand, based on 14 days moving average.
* Implemented time series forecasting models (ARIMA, AutoArima, Prophet) and machine learning models (XGBoost, SVR), creating custom classes around existing libraries. Used MAD, MAPE, and RMSE to evaluate forecast accuracy and utilized GCP’s AutoML Tables for automated model selection and tuning.
* Leveraged Google Cloud services and Analytics Platform, including a “What-If” visualization dashboard. Utilized Looker, Plotly, and Bokeh for web-based interactive visualizations, integrating them with the Flask framework for various chart types.

**Environment:** Google Cloud Platform, Big Query ML, Kube Flow pipelines, Kubernetes, Flask Framework, Python, SQL, Looker, Plotly, Bokeh

**SEENET Technology, Bangalore, India 03/2014 – 12/2016**

**Data Scientist**

**Responsibilities:**

* Managed transactional, behavioral, geographical, and market data for a marketing team of a financial company to increase the effectiveness of the marketing campaign.
* Responsible for business growth through statistical data driven strategy development.
* Aligned analytical efforts with the company strategic objective of building customer centric solutions.
* Analytical efforts in 2015 generated +300K incremental accounts and 1st year assets inflow of $100M in the 1st half of year with a focus on affluent customers.
* Improved ROI by helping the company shift from traditional paid media to digital marketing focus.
* Provided expert technical guidance to the team on modeling, data analysis, and programming.

**SEENET Technology, Bangalore, India 01/2010 – 12/2013**

**Business Analyst**

**Responsibilities:**

* Managed and mined direct to client customer database for one of the large retail clients for insights to drive better business decisions and optimize marketing ROIs.
* Used statistical analysis and modeling efforts to uncover insights from large complex data sets (i.e., customer database, web, and channel analytics), data storytelling, and implementing new data-driven strategies.
* Analyzed customer data to drive in-depth understanding of demographic, purchase, and behavioral trends and profiles to inform key business and marketing decisions.
* Built customer cohorts based on key purchase behavior, relevant product affinity, and other relevant groupings to inform targeting programs.
* Developed and executed customer retention strategies to enhance customer growth and loyalty.
* Partnered with IT/Platforms Director to develop relevant business and marketing intelligence reporting for ecommerce properties.

**Siemens Information Systems Ltd., Bangalore, India 06/2003 – 01/2010**

**Software Engineer**

**Responsibilities:**

* Developed & supervised development of Models focusing on pricing and offers optimization.
* Design of Experiments to measure prospects behavior across different products and offers.
* Supported model implementation, validation and scoring of the prospects for marketing campaigns.
* Worked closely with portfolio managers to mitigate risk and implemented new segmentations tools generating superior risk-adjusted performance and collaborated with the risk management team for testing.
* Architected an XML based highly customizable product.
* Led product integration with WebSphere Portal.
* Oversaw product customization for the number of Fortune 100 clients.
* Adopted Extreme Programming and other agile technology to cut down product release cycle by 20% and cost by 15%.
* Consulted VP engineering on offshoring processes and distributed development practices.