MANGESH PATIL

+1 (516)2721857 | **mp.work1008@gmail.com** | _Portfolio_ | _Linkedin_

WORK EXPERIENCE

JPMorgan Chase & Co. Quantitative Research Experience Program　　　　　　　**New York, United States**
Quantitative Research Analyst　　　　　　　　　　　　　　　　　　　　　　　　2024-2024
- Developed a credit risk evaluation model using logistic regression, predicting **loan defaults** with **85%** accuracy and **0.90 AUC** through advanced data preprocessing and feature engineering.
- Applied **K-means** clustering for **FICO score** quantization, segmenting credit scores into **10 buckets** and incorporating ratings as a feature for improved predictive modeling.

Changing the present　　　　　　　　　　　　　　　　　　　　　　　　　　　　**New York, United States**
Data Analyst　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　2024-Present
- **Customer Insights & Data Analysis**: Conducted **donor behavior** analysis, transaction **data evaluation**, and charity preference insights to optimize marketing campaigns, achieving a 15% increase in targeted donor engagement. **Extracted** and transferred data from enterprise databases to **AWS S3** using **SQL** and **AWS Redshift** for downstream tasks.
- **Visualization & Reporting**: Developed interactive **Tableau** dashboards and reports to track **fundraising performance**, **monitor donation trends,** and evaluate **strategic impacts** under various factors, enabling data-driven decision-making.

Extern　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　**New York, United States**
Data Scientist Extern　　　　　　　　　　　　　　　　　　　　　　　　　　　　2024-2024
- **Beats by Dre Extern Consumer Insights Data Analyst:** Leveraged Python, VADER, and Gemini AI to analyze **consumer sentiment**, identifying core product strengths (sound quality, portability) and areas for improvement (battery life, durability) while delivering insights to guide **product refinements** and enhance customer satisfaction.
- **Expedia Extern Digital Advertising Insights:** Analyzed advertising strategies and **revenue models** of **7 key** travel industry competitors, delivering actionable recommendations to optimize digital **ad investments** and maximize ROI.

Manifest Tech Media　　　　　　　　　　　　　　　　　　　　　　　　　　　　　**Remote, India**
Credit Risk & Data Analytics Associate　　　　　　　　　　　　　　　　　　　　2021-2022
- **Credit Risk Modelling**: Developed and refined **credit risk models** for an instant loan platform targeting **working students**, analyzing **financial behavior** and repayment history to **reduce defaults** and improve the accuracy of loan approvals.
- **Segmentation & Strategy Development**: Implemented data-driven **borrower segmentation** based on income, spending habits, and credit profiles to tailor loan offerings, resulting in a 15% boost in user engagement and **increased loan repayment** rates.

Maharashtra Telephone Nigam Limited Thane, India　　　　　　　　　　　　　　　**Mumbai, India**
Data Science and Analytics Intern　　　　　　　　　　　　　　　　　　　　　　2019-2020
- Customer Segmentation & RFM Analysis: Engineered an **RFM (Recency, Frequency, Monetary)** analysis and scoring model, enhancing targeted marketing efforts and improving customer engagement by **5%.**
- Churn Prediction Modeling: Led **churn prediction** analysis using **machine learning** techniques, reducing **customer churn** by **3%** through **retention-focused** strategies tailored to **high-risk segments.**

PROJECTS

Customer Churn Prediction Modelling
- Preprocessed financial data by **handling missing** values outliers and converting categorical features to **Weight of Evidence (WOE).**
- Created **RFM Score** features and utilized XGBoost for feature importance analysis, identifying key churn predictors.
- Optimized Logistic Regression and XGBoost models, **boosting ROC-AUC** scores **(Logistic: 0.823, XGBoost: 0.933)**.
- Developed interactive **dashboards** to visualize churn trends and **customer segments**, aiding strategic decision-making.

Credit Risk Modelling
- Applied Logistic Regression and XGBoost, utilizing **WOE bucketing** and **VIF-based feature selection** to ensure model stability.
- Scaled features using StandardScaler and mitigated class imbalance through class weighting and scale_pos_weight.
- Assessed model performance with **AUC (XGBoost: 0.933, Logistic: 0.823)**, **KS Statistic (0.730),** and **Gini Coefficient (0.866).**
- Ensured model consistency through **Population Stability Index (PSI)** and **Kernel Density Estimation (KDE).**

Netflix Recommendation System
- Designed and implemented a hybrid recommendation system utilizing **SVD f**or **collaborative filtering** and **TF-IDF** with **cosine similarity** for **content-based filtering.**
- Tuned the system to provide personalized movie recommendations, achieving a low **RMSE** of **0.368** and **MAE** of **0.400.**
- Leveraged **user behavior data** to continuously refine the r**ecommendation** process and enhance user satisfaction.
- Applied **cross-validation** techniques to ensure the robustness and **scalability** of the **recommendation model** across different datasets.

TECHNICAL SKILLS

- **Programming Languages**: Python (Intermediate), SQL (Advanced), R (Basic).
- **Data Analysis & Visualization**: Skilled in Pandas, NumPy, Matplotlib, Seaborn, Tableau, and Power BI for data manipulation and storytelling.
- **Statistical Analysis**: Proficient in Hypothesis Testing, Regression (Linear, Logistic), Clustering, Time Series Analysis (ARIMA), ANOVA, A/B Testing, Chi-square and Bayesian Inference.
- **Machine Learning**: Experienced in sci-kit-learn, TensorFlow, Keras, SVM (Support Vector Machine) XGBoost, ARIMA, and KNN, with expertise in model evaluation, optimization, and Deployment.
- **Cloud Platforms**: Hands-on experience with Microsoft Azure (AI & ML), AWS (S3, EC2, SageMaker), and GCP (BigQuery, AI tools).
- **Big Data & Databases**: Proficient in MySQL, PostgreSQL, MongoDB, ETL pipelines, and data cleaning.
- **Deep Learning & NLP**: Skilled in CNNs, Transfer Learning, and NLP techniques like sentiment analysis and TF-IDF using TensorFlow and NLTK.

EDUCATION

Pace University, Seidenberg School of Computer Science　　　　　　　　　　　　**New York, United States**
Master of Science in Data Science　　　　　　　　　　　　　　　　　　　　　　2024

University of Mumbai　　　　　　　　　　　　　　　　　　　　　　　　　　　　　**Mumbai, India**
Bachelor of Engineering in Electronics Engineering　　　　　　　　　　　　　　　2022