

SANDEEP SINGH

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PROFESSIONAL SUMMARY

Data Analyst specializing in Python, SQL, and advanced machine learning (XGBoost) to design high-impact customer segmentation and targeted marketing solutions. Proven track record of leveraging predictive modeling and A/B testing architectures to solve complex business problems, optimize multi-channel commercial campaigns, and profitably drive customer acquisition and revenue growth.

TECHNICAL SKILLS

- **Languages & Databases:** Python (Pandas, NumPy, Scikit-Learn), SQL (PostgreSQL, MySQL, CTEs, Window Functions, Stored Procedures, Views), Excel, Knowledge of Big Data environments (Hive/Spark readiness).
- **Analytics & Machine Learning:** XGBoost, Decision Trees, Predictive Modeling, SMOTE, Threshold Optimization, RFM Segmentation, Cohort Analysis, CLTV Modeling, Pareto Analysis, Identity Resolution.
- **Experimentation & Domain Expertise:** A/B Testing, Causal Inference, Fraud Detection, BFSI Analytics, Customer Acquisition Targeting, E-commerce & Retail Analytics.
- **BI & Visualization:** Tableau (Interactive Dashboards, Drill-Through, Data Storytelling), Power BI (DAX, Data Modeling), Matplotlib, Seaborn, Plotly.

PROFESSIONAL EXPERIENCE

Credit and Fraud Risk (CFR) Detection Analytics

[Project Link](#)

Strategy and Analytics, XGBoost, SHAP, SQL, Tableau

- Designed and Formulated an XGBoost predictive model (0.977 AUC-ROC, 88.8% recall, \$12.75K direct savings) on 284K transactions using SMOTE and Precision-Recall threshold optimization down to 0.09.
- Uncovered critical 2–4 AM fraud peaks and sub-\$100 transaction patterns by building 3 optimized MySQL views with CTEs, enabling systematic pattern detection across 5 distinct channels.
- Deployed a 4-view interactive Tableau monitoring system utilizing a decision-cost matrix for real-time risk-tier filtering, hourly distribution tracking, and executive KPI reporting.

CLTV Valuation Engine & Data Governance

[Project Link](#)

Data Quality, BG/NBD, Gamma-Gamma, RFM, SQL

- Architected a scalable BG/NBD CLTV engine across 805K transactions predicting \$8.4M in potential revenue; mapped a 6-segment customer taxonomy to isolate a \$5.2M At-Risk acquisition and retention pool.
- Programmed dynamic MySQL Stored Procedures and 4 complex views to feed a 6-sheet Tableau dashboard, enabling cross-functional marketing and finance stakeholders to execute real-time segment updates.
- Documented a 12.8x ROI on the Champions VIP retention program (\$31.5K investment generating \$403K incremental revenue) and reduced monthly reporting overhead by 15 hours via automated refresh pipelines.

Customer360 Identity Resolution & Portfolio Strategy

[Project Link](#)

Fuzzy Matching, Union-Find Algorithms, SQL

- Solved an unstructured data problem by resolving duplicate customer profiles (3.7% deduplication rate) using Fuzzy Matching and Union-Find algorithms, building 35 KPI features to establish a unified customer base.
- Executed a Pareto analysis identifying the top 9.4% of premium customers driving 50.9% of total revenue (\$247K CLTV), discovering a 627-day dormancy threshold to optimize targeted campaign windows.
- Built and deployed a 6-sheet Tableau dashboard capturing cohort retention, RFM scatter distributions, and cross-sell funnels powered by programmed MySQL backend updates.

Marketing, Healthcare & Retail Analytics Initiatives

[Portfolio Link](#)

A/B Testing, Causal Inference, Predictive Modeling

- Created an A/B Test Optimization Framework with propensity-score causal inference validation across 50K+ users to evaluate product implementation variations.
- Constructed a Hospital Readmission Risk Prediction Engine mapping 120+ clinical parameters, alongside Price Elasticity Analytics across 15+ product categories.

CERTIFICATIONS

- Google Data Analytics Professional Certificate
- SQL (Intermediate) Certificate – HackerRank
- SQL for Data Analysts – LinkedIn Learning

EDUCATION

Bharati Vidyapeeth's College of Engineering

Bachelor of Technology (B.Tech) in Electronics and Communication Engineering

New Delhi, India

CGPA: 8.2/10 — 2019–2023