

PRASHANT MISHRA

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EDUCATION

Delhi Technological University | B.Tech (Production and Industrial Engineering | **CGPA: 7.7**) **New Delhi** 2022-26
Kamal Model Sr Sec. School, New Delhi | Class X - **90.2%** | Class XII - **74%** |

PROFESSIONAL EXPERIENCE

Market Research & Data Visualization Intern, M and M Creative | New Delhi **June 2025 - July 2025**

- Built and maintained **Interactive KPI dashboards** in Power BI, tracking **10+ core metrics** (CTR, CPC, Conversion Rate, CAC), reducing manual reporting time by **30%**
- Analyzed **5,000+** user records to perform audience segmentation across **3 dimensions** (age, location, device), identifying **6 high-value customer segments**.
- Conducted end-to-end funnel analysis (Impressions → Clicks → Leads → Conversions) that uncovered a **35% drop-off** at the lead stage, informing retargeting strategies that improved lead-to-conversion rate by **18%**.

PROJECTS

Pulse Health — AI-Powered Insurance Premium Prediction System [[GitHub](#)] | [[Live Demo](#)]

(Python, XGBoost, LightGBM, Random Forest, SHAP, Streamlit)

- Built a segmented premium-prediction engine** — two age-based stacked ensembles (XGBoost + LightGBM + Random Forest, Ridge meta-model) trained on a **50,000+** record applicant dataset — achieving **MAE ₹254 / R² 0.998** for ages 25+ and **MAE ₹261 / R² 0.987** for ages ≤25, replacing manual actuarial-table pricing with automated, data-driven premium estimates.
- Engineered 20+ predictive features** (composite health/smoking risk scores, **target-mean encoding**, **VIF-based collinearity filtering**) and tuned the ensemble via **cross-validated hyperparameter search**, driving prediction error below ₹260 on average across both segments.
- Deployed the model on Streamlit** with a direct-input form and **SHAP-based explainability**, cutting premium turnaround from a manual, multi-step process to a sub-second, auditable quote for underwriters.

Sierra Finance — Credit Risk & Loan Default Prediction Model [[GitHub](#)] | [[Live Demo](#)]

(Python, XGBoost, LightGBM, CatBoost, SHAP, Optuna)

- Built a soft-voting ensemble model** (CatBoost + XGBoost + LightGBM) on **50,000+** loan applicant records (33 features across customer, loan, and bureau data), achieving **98.8% ROC-AUC** and an **87.4 KS-statistic** for default prediction.
- Resolved an **8.6% class imbalance** by benchmarking 5 algorithms across class-weighting, undersampling, and **SMOTE-Tomek** (9 combinations), then tuned hyperparameters via **Optuna Bayesian optimization** to maximize defaulter recall.
- Optimized the decision threshold via **F2-score cost analysis**, catching **96% of actual defaulters** while retaining a **94% approval rate for genuine customers** — directly cutting credit-loss exposure without over-restricting good borrowers.

TECHNICAL SKILLS

- Programming** : Python (Pandas, NumPy, Scikit-learn, XGBoost, LightGBM, CatBoost, SHAP, Optuna)
- Machine Learning**: Classification & Regression Modelling, Ensemble Learning (Voting/Stacking), Class-Imbalance Handling (SMOTE, Class Weights), Hyperparameter Tuning, Model Calibration & Explainability (SHAP)
- Excel** : (Pivot Tables, VLOOKUP,XLOOKUP, Data Cleaning, Basic Dashboarding)
- Power BI** : (Data Visualization, Basic Dashboarding)
- Databases** : SQL (SELECT, WHERE, JOIN, GROUP BY, Aggregations, WINDOWS, Subqueries)
- Web & Product Analytics**: Google Analytics 4 (GA4)-events, funnels Google Search Console, Shopify Analytics
- Statistics & Modelling**: Regression Analysis, A/B Testing, Hypothesis Testing, WOE/IV Analysis, Time-Series

CERTIFICATIONS

- NISM-Series-XV & VIII** : Research Analyst ([SEBI Certified](#)) & Equity Derivatives ([SEBI Certified](#))
- Quantitative Investment Management** – IIT Roorkee (NPTEL)
- Code With Harry Data Science** - CWH Complete [Data Science](#)

ACHIEVEMENTS & EXTRA-CURRICULAR

- Angel One DRA Partner**: Facilitated seamless onboarding and Demat account opening for clients as a trusted Distributor-Related Agent (DRA) partner with Angel One.
- Founded and managed a finance-focused YouTube channel with 18,000+ subscribers**, delivering in-depth analysis on trading and financial markets.