

PRIYANSH PATIDAR

Data Scientist

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PROFILE SUMMARY

- Fintech Data Scientist with 4 years at a leading credit card company, building end-to-end fraud detection and risk systems that reduced ATO incidents by 60% and prevented Rs. 8L+ monthly fraudulent transactions. Experienced in geospatial risk modeling, device fingerprinting, and RAG-based AI platforms.
- Strong foundations in Python, SQL, and statistical modeling with hands-on experience in event-driven architectures.

EDUCATION

IIT(BHU), Varanasi

B.Tech in Civil Engineering

July 2018 - June 2022

Other Courses: Business Statistics and Analysis Specialization (Coursera), Python for Data Science and Machine Learning (Udemy)

EXPERIENCE

FPL Technologies (OneCard), India

Data Scientist

June 2022 - Present

Micro-Market Risk Assessment Framework

- Engineered a GeoSpatial risk scoring system using **H3 Grid** framework, aggregating bureau and internal default data across geographic locations to identify high-risk areas - reducing underwriting exposure by flagging **8%** more risky applicants
- Developed an end-to-end GeoLocation pipeline integrating Google's Geocoding APIs to convert **1M+ customer addresses** monthly into geo coordinates, mapping performance metrics across H3 grids to pinpoint granular risk-concentrated areas
- Applied Wilson Score statistical methodology at **95% confidence intervals** to address sparse data and small sample size bias across geographic grids, improving grid-level precision by reducing false positives by **22% in low-density areas**
- Built interactive risk visualizations using Python's Folium library to display grid-level performance metrics on dynamic maps, enabling stakeholders to intuitively interpret micro-market risk concentrations on **blacklisting 130+ hot spots**
- Implemented velocity-based fraud detection rules at H3 grid level to identify syndicate fraud patterns by flagging concentrated application surges within configurable time windows, **detecting 5% of organized fraud attempts** in underwriting

Device Fingerprinting Based Risk Strategy

- Architected an end-to-end device-based fraud detection pipeline using EventBridge and Lambda to process **50K+ daily device events** from frontend through BFF layer to real-time fraud detection engine with **<100ms** event processing latency
- Designed a UUID-based device fingerprinting method leveraging **15+ device metadata signals** to generate persistent device signatures, achieving **98% cross-session device match accuracy** for fraud detection and credit exposure management
- Developed a graph-based fraud ring detection system using Neo4j to identify connected customer clusters through shared devices, mobile number, and email, preventing 200+ fraudulent applications and reducing fraud loss by **Rs. 12L+ monthly**
- Built an automated device blacklisting mechanism with real-time session termination capabilities, blocking **85% of Account Takeover attempts** from previously flagged devices and reducing ATO cases by **60% within 3 months** of deployment
- Created transaction risk rules to decline high-risk transactions based on total amount and velocity from new device UUIDs, **preventing potential fraud of Rs. 8L+ monthly** while maintaining **<2% false positive rate** for legitimate customers

Conversational AI Platform for Customer Interactions

- Architected an in-house conversational AI platform to replace third-party solution, handling **80K+ monthly conversations**, increasing query resolution rate from **40% to 73%** while eliminating vendor constraints and enabling full customization
- Designed a dual-pathway system routing transactional intents to deterministic rule-based flows and informational queries to a RAG pipeline, balancing automation with risk management and maintaining explainability for critical customer transactions
- Built a RAG-based knowledge retrieval system using sentence-transformer embeddings and semantic search over FAISS vector store, **reducing agent intervention by 34%** and achieving **88% user-rated answer accuracy** on informational queries
- Implemented an intent classification model using semantic similarity search over vector DB with sentence-transformer models, improving classification error rate from **8% to 0.7%**, and integrated a centralized API library for real-time data retrieval

SKILLS

- Languages:** Python, SQL, Cypher
- Generative AI & LLM:** RAG, LLMs, Generative AI, Prompt Engineering, Embeddings, Semantic Search, Vector Databases (FAISS), LangChain, sentence-transformers, Intent Classification
- Libraries & Frameworks:** Pandas, Polars, NumPy, Scikit-learn
- Tools:** Superset, Jupyter Notebook, Postman, GitLab, Neo4j, GitHub, MS Office
- ML Techniques:** Machine Learning, Deep Learning, NLP, Feature Engineering, A/B Testing, Statistics, Data Visualization, Model Deployment
- Cloud & Infra:** AWS (EventBridge, Lambda), MLOps, Event-Driven Architecture

EXTRA-CURRICULAR ACTIVITIES

- Joint Secretary, Aero Modelling Club, IIT BHU - Led technical and operational activities for 250+ member club
- Secured Top 100 rank in Amazon ML Challenge among 3000+ teams, demonstrating ML and problem-solving capabilities