

Nisarg Patel

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SUMMARY

Master's student in Data Analytics at the University of Niagara Falls Canada with a background in Computer Science. Skilled in Python, SQL, R, GIS, and machine learning with project experience spanning fraud detection, spatial analysis, predictive modeling, and process optimization. Seeking a Summer 2026 co-op in data analytics.

KEY COMPETENCIES

Languages: Python, SQL, R

Libraries & ML: Pandas, NumPy, Scikit-learn, XGBoost, SHAP, Prophet, Gurobi, OR-Tools, Random Forest

Geospatial: GeoPandas, Folium, Shapely, QGIS

BI & Visualization: Tableau, Power BI (DAX/Power Query), Matplotlib, Seaborn

Tools: Excel (Advanced/Macros), SPSS, GitHub, Jira, Jupyter

KEY DATA PROJECTS/ TECHNICAL EXPERIENCE

Milton Transit Desert Analysis (GIS and Spatial Analytics)

February 2026

Personal Project · Python, GeoPandas, Folium, Shapely, GTFS, Statistics Canada Census Data

- Conducted end-to-end spatial analysis across 171 Dissemination Areas in Milton, ON, identifying that 22.9% of residents (~37,670 people) live beyond a 5-minute walk from any transit stop - pinpointing 47 under-served zones for targeted service improvement.
- Built an interactive Folium choropleth map and deployed the full analysis to GitHub Pages, translating raw GTFS and census data into a public-facing decision-support tool.

Credit Card Fraud Detection (Cost Benefit optimization)

January 2026

Personal Project · Python, XGBoost, SHAP, Pandas

- Engineered 13 features (rolling velocity checks, haversine distance, cyclical time encoding, behavioral profiling) on 1M+ transactions with a 0.57% fraud rate; trained an XGBoost classifier achieving 96% recall on the fraud class.
- Implemented a custom cost-sensitive threshold optimizer (FN = \$500, FP = \$20), identifying an optimal decision threshold of 0.54 that generated \$917,680 in net savings on the held-out test set.
- Integrated SHAP (TreeExplainer) to produce per-transaction reason codes across 5,000+ validation samples, enabling full model auditability for compliance and fraud analyst review.

User Engagement & Churn Analytics (OULAD)

December 2025

Personal Project · Python, Scikit-learn, Random Forest, Pandas

- Engineered a predictive model on 10M+ LMS clickstream rows (OULAD dataset) to flag at-risk students by Week 4 with 70% precision, enabling early intervention before dropout.
- Discovered that Relative Engagement (ratio of late-to-early clicks) is the #1 predictor of student risk, outperforming all demographic features and improving F1-score by 5.6% over the baseline.
- Identified Week 0 as the critical intervention window with a 26.5-click engagement gap between at-risk and passing students, providing actionable timing guidance for support teams.

EDUCATION

Masters of Data Analytics

University of Niagara Falls, ON, Canada

Expected Graduation: Jan 2027 | Grade: 3.68/4.33

Bachelor of Computer Science

University of Windsor, ON, Canada

Graduated: Dec 2024 | Grade: 78% (B+)

CERTIFICATIONS

Google Data Analytics Certificate

Google/Coursera

Software Design: Modelling with UML

LinkedIn

EXTRACURRICULAR ACTIVITIES

Community Volunteer | Hindu Community Cultural Centre, Windsor, ON