

# Xiaoming Jin

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## DATA SCIENTIST

### Profile Summary

Data Scientist with robust experience in developing machine learning models, including fraud detection and predictive analytics. Proficient in Python, R, SQL, and advanced statistical methods, with a strong foundation in data analysis, feature engineering, and model validation. Adept at collaborating with cross-functional teams to deliver data-driven insights and solutions. Looking to apply expertise in data science and analytics to empower teams with data-driven insights and impactful decision-making.

### Skills

**Python** (scikit-learn, TensorFlow, PyTorch, Keras) | **Data Visualization**: Matplotlib, Seaborn, Tableau | **Big Data**: SQL Server, Jupyter, PRM (Proactive Risk Manager)

**Statistical Methods**: Clustering, multivariate analysis, time series analysis, regression | **Machine Learning**: XGBoost, neural networks, decision trees, model monitoring

### Education

**Georgia Tech** *Master of Science in Analytics*

Concentration: Computational Data Analytics Track  
Aug. 2024 - 2026 (Expected)

**University of Waterloo** *Master of Mathematics in Statistics* GPA: 87/100

**Brock University** *Honours Bachelor of Science in Statistics & Economics* GPA: 92/100

Sep. 2021 – Aug. 2022  
Brock Scholar Awards, Dean's List  
Sep. 2017 – Apr. 2021

### Work Experience

Toronto-Dominion Bank (TD Bank) **Data Scientist**

Jan. 2023 – present

- **XGBoost Fraud Detection Model Development:**
  - **Project Overview:** Spearheaded the development and deployment of an XGBoost model for fraud detection in the Canadian banking sector, achieving a 20% improvement in identifying short-term fraud patterns and ensuring robust post-deployment monitoring.
  - **Tools & Techniques:** Employed Python for model development and SQL for data preprocessing; utilized SHAP values for feature selection and optimization.
- **Monthly Model Monitoring for 49 Models:**
  - **Process:** Managed the end-to-end monitoring process for 40+ fraud detection models using R and SQL, ensuring model performance stability and timely reporting.
  - **Outcome:** Achieved consistent model performance with minimal AUC degradation and facilitated critical business decisions through accurate monthly reports.
- **Cross-Functional Collaboration:**  
Partnered with business teams and external vendors to ensure seamless model deployment and governance, resulting in a 30% increase in model accuracy across various portfolios.

University of Waterloo **Teaching Assistant**

Sep. 2021 – Aug. 2022

- Delivered technical guidance and support to over 80 students in Python and R, significantly improving their understanding of statistical methods.
- Achieved a 95% student satisfaction rate, contributing to overall course success and higher retention rates.

### Project Experience

ECG Heartbeat Classification University of Waterloo

Apr. 2022 – Aug. 2022

- **Project:** Designed and implemented deep learning models, achieving 97.9% accuracy in classifying heartbeats, leveraging Python's machine learning libraries.
- Built and implemented machine learning models (neural networks, CNN, decision trees) to classify ECG heartbeats with 97.9% accuracy.
- Applied data preprocessing techniques, including oversampling, to address class imbalance and improve model reliability.
- Achieved significant reduction in false negatives, enhancing diagnostic accuracy and demonstrating the effective use of AI in healthcare.

Thesis: Weighted Functional Principal Component Analysis for Longitudinal Data

University of Waterloo

Apr. 2022 – Aug. 2022

- Developed and validated weighted local regression models in R to accurately estimate mean and covariance functions in longitudinal data.
- Conducted extensive exploratory data analysis (EDA) and applied functional principal component analysis (FPCA) to identify significant interaction effects.
- Resulted in a highly accurate model that enhanced the understanding of dynamic interactions in longitudinal data, earning positive recognition from the academic committee.