Jingqi (Jessie) Zhuang

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Accomplished Data Scientist with a strong background in Statistics and Economics, adept at turning large datasets into strategic insights. Skilled in advanced analytics, process optimization, and leveraging emerging AI and LLM technologies.

TECHNICAL SKILLS

Languages: Python (pandas, matplotlib, scikit-learn), SQL, R, Java, SAS
Data Visualization: Tableau, PowerBI, Excel
Machine Learning: Supervised & Unsupervised Learning, Predictive Modeling, Deep Learning, Evaluation & Deployment

EDUCATION

Master of Management Analytics Candidate, Rotman School of Management, University of Toronto, ON 2025
- CGPA 3.95 / 4.0, Recipient of Entrance Award ($10,000) for Academic Excellence

B.S. in Statistics & Economics Minor in Computer Science. University of Toronto, ON 2024
- Honors: Dean's List Scholar, Honor Roll (CGPA 3.9 / 4.0)

PROFESSIONAL EXPERIENCE

Data Scientist, **Ryan LLC** Toronto, ON Jan 2025 - Present
Global tax services and software firm – the largest firm dedicated exclusively to business tax.
- Developing company's first **LLM-powered AI chatbot** for +500 corporations that use their property tax management software, leveraging **Retrieval-Augmented Generation (RAG)** to automate financial analysis and reporting
- Engineering SQL query logs and **vector embedding strategies** to optimize similarity search mechanisms, improving retrieval accuracy for tax-related queries
- Designing a multi-layer **malicious prompt detection** system with a target 95-99% attack detection rate, mitigating adversarial security risks in AI interactions
- Researching and implementing a recursive RAG approach to effectively handle multi-step tax and financial queries
- Reduce manual analysis time for tax and finance professionals from 30+ minutes to under 5 seconds, improving workflow efficiency and decision-making speed

Data Analyst Intern, Inspur Group Co., Ltd., Guangzhou, China Jul 2021 – Oct 2021
China's leading cloud computing, big data service provider – serving over 50 countries globally.
- Pre-processed dataset to **handle missing values** to ensure and uphold data integrity and accuracy prior to analysis
- Conducted exploratory data analysis to identify patterns and trends in competitors' government projects using R
- Completed **competitor analysis** and delivered summary report to leadership, synthesizing insights, producing visual data stories through charts using **RStudio data visualization tools**, and making strategic recommendations to address gaps
- Designed and delivered dashboards in **Tableau** to business stakeholders, highlighting project bidding status across 600+ projects to enable competitor benchmarking and optimized project resource decisions

Computer Science, Mathematics, and Economics Teacher, SavvyPro Edu Inc., Mississauga, Ontario 2021-2024
- Taught Python coding, Calculus, and Financial Economics courses for +300 students, communicated complex concepts in a logical manner. Developed sample problem sets to support students with the application of python

TECHNICAL PROJECTS

TOP 10 (Out of 100) - Kaggle Prediction Competition | R, Lasso Regression, Random Forest
- Utilized **Lasso Regression** for model selection on dataset of 3000 records and 136 attributes, resulting in training model with 38 selected attributes. Applied **Random Forest** algorithm to construct a prediction model using the selected training dataset, achieving accurate and precise predictions

Scotiabank Credit Risk Management Case Competition (2024) | Python, Bloomberg
- Assessed the credit risk of Air Canada to evaluate its eligibility for a $200M revolving credit facility, analyzing financial stability and repayment capacity
- Analyzed capital structure trends using **data visualizations** to evaluate maturity schedules and covenant compliance, deriving key financial insights from annual reports and Capital IQ
- Performed **financial forecasting** leveraging Bloomberg and Python to model EBITDA and CapEx trends over the next five years, demonstrating Air Canada's resilient financial performance

Predictive Modeling of Sales Calls Campaign | Python, Logistic Regression, ROC Curve Analysis
- Performed exploratory data analysis on 41,188 historical records to identify key sales predictors, utilizing **KNN imputation** for missing values. Applied **Lasso Regression** for variable selection, reducing 900+ predictors to 186, resulting in a more efficient model
- Developed a **Logistic Regression** model to predict sales outcomes, achieving 90% accuracy by tuning thresholds based on **ROC curve analysis** for optimal performance