Kevin Ni

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Education

University of Toronto St. George Campus

Bachelor of Applied Science and Engineering | Major in Robotics Engineering *2021 – 2026 (Expected)*

Minor in Engineering Business | Minor in Artificial Intelligence

- **Relevant Coursework:** Financial Engineering (In Prog.) Fundamentals of Accounting and Finance, Economic Analysis and Decision Making, Principles of Microeconomics, Probability and Statistics, Data Structures and Analysis (Python), Introduction to Artificial Intelligence (Python), Introduction to Learning from Data (Python), Applied Fundamentals of Deep Learning (Python).
- **Awards and Scholarships:** 2025 Jeffrey Skoll Engineering Business Scholarship

Technical Skills

Programming: Python, SQL, Java, C/C++
Libraries: PyTorch, NumPy, pandas, Matplotlib
Tools: Git, Linux, Bash, Powershell, Visual Studio
Interests: AI in Finance, Quantitative Finance, Algorithmic Trading, Portfolio Optimization, Computational Finance

Experience

Junior Designer - Electrical May 2024 – May 2025 (Expected)

Smith + Andersen *North York, ON*

- Produced electrical drawings for lighting, emergency lighting, security, power, and data systems using AutoCAD/Revit, supporting high-profile tenant projects.
- Optimized transformer, feed, and panel sizing through detailed electrical load calculations, ensuring efficient and reliable tenant power distribution.
- Conducted site surveys and reported findings to architects/contractors, aligning construction with design specifications and improving client satisfaction.
- Reviewed and verified billing/quotations to maintain budget alignment and cost accuracy.

Junior Mechatronics and Embedded Systems Specialist June 2023 – Oct. 2023

Kevares Autonomous Services *Oshawa, ON (Remote)*

- Delivered a real-time robot monitoring dashboard (ROS + Streamlit), enabling live tracking, visualization, and control on local devices.
- Engineered back-end in Python/ROS to manage robot endpoints and camera feeds, streamlining integration with two additional software systems.
- Built stereo camera point-cloud visualization (Open3D), allowing clients to analyze sidewalk defects more efficiently and accelerate decision-making.

Systems - Drivers Member Oct. 2024 – May 2025

aUToronto, University of Toronto *Toronto, ON*

- Automated camera driver lifecycle management in C++/ROS2, improving system reliability through streamlined detection, configuration, and shutdown.
- Refactored existing drivers for cleaner code and smoother integration, enhancing performance and reducing maintenance overhead.
- Compiled and labeled 2,000+ frames of 15 unique objects to refine a 3D object detection algorithm, boosting model accuracy.

Cashier Assistant Jul. 2021 – Dec. 2023

Costco *Brampton, ON*

Cashier, Barista, Cook June 2019 – Aug. 2021

CoCo Fresh Tea and Juice *Brampton, ON*

Projects

AI + Finance 4th Year Thesis Project *Sept 2025 – May 2026*

Python, SQL (anticipated)

- Planned thesis with Professor Roy Kwon (University of Toronto) exploring intersections of machine learning and finance.
- Anticipated directions include high-frequency trading strategies, risk management, and predictive modeling of financial markets.

Applied Fundamentals of Deep Learning Project (APS360) *May 2025 – Aug. 2025*

Python, PyTorch, NumPy

- Implemented Test-Time Training (TTT) with a Diffusion Transformer, improving long-form audio coherence and reducing repetition.
- Processed 100,000+ audio samples (AudioCaps, FSD50K) with Python + FFmpeg, standardizing data for robust model generalization.
- Benchmarked custom DiT against Latent-LSTM baseline using objective metrics (clarity, repetition, length), demonstrating superior performance under memory constraints.

Intro to Learning From Data Labs (ROB313) *Jan. 2024 – May 2024*

Python, NumPy, Matplotlib

- Built k-Nearest Neighbors models for regression/classification, tuning hyperparameters via cross-validation and comparing brute-force vs. k-d tree approaches.
- Implemented linear/logistic regression with full-batch, SGD, and momentum optimizers, analyzing convergence trends.
- Designed and trained RBF models and an MNIST neural network, achieving 95% validation accuracy through iterative tuning.

Fundamentals of Accounting and Finance Integrated Project (JRE300) *May 2023 – Jun. 2023*

Financial Modeling, FactSet, DCF, CAPM

- Conducted financial statement and ratio analysis of Caterpillar Inc. vs. Deere & Co. using FactSet, identifying liquidity and profitability trends across two fiscal years.
- Built a discounted cash flow model for a $120M nuclear energy project (SafePowerCorp), evaluating tax shields, salvage value, NPV, and IRR under multiple pricing scenarios.
- Applied CAPM and comparables analysis (P/E multiples) to value Caterpillar and Deere, generating buy/sell recommendations based on valuation gaps.