Nelson Siu

+1 (647) 410-1271 | nelson.siu@mail.utoronto.ca | github.com/nelonmelons

Education

University of Toronto — Toronto, ON
Bachelor of Applied Science in Engineering Science — *Sep. 2024 – May 2028*

- ***Cumulative GPA:*** **3.8/4.0**
- ***Intended Major:*** *Math, Statistics, and Financial Engineering*

Markville Secondary School — Markham, ON
Ontario Secondary School Diploma — *Aug. 2020 – Jun. 2024*

Experience

Software Engineer — Sep. 2024 – Present
Blue Sky Solar Racing - U of T Solar Car Engineering Design Team — *Toronto, ON*

- Implemented unit tests to test vehicle code logic through hardware mocking.
- Wrote integration tests to test the vehicle in a safe-controlled environment.
- Integrated telemetry data collection system to monitor vehicle diagnostics in real-time.

Quantitative Researcher — Sep. 2024 – Present
St. George Capital - UofT Quantitative Finance Design Team — *Toronto, Canada*

- Developed quantitative strategies by analyzing historical price data for SP500 stocks using Python, Pandas, Numpy, yfinance.
- Developed a supervised machine learning model using linear regression to predict future volatility of individual stocks.
- Currently developing a novel risk metric for individual stocks based on financial indicators (e.g., Sharpe/Sortino Ratio, cVar).

DECA President — Sep. 2023 – Jun. 2024
Markville Secondary School — *Markham, Ontario*

- Led and managed school's DECA Chapter of more than 300 students.
- Coordinated club trainers and organized training meetings and events.
- Helped school chapter produce 100+ Provincial Qualifiers, and 30+ International Qualifiers (ICDC).

Research/Projects

Analyzing Poker ICM Chip Counts | *Python, Data Analysis* — Oct. 2024 – Present

- Conducting poker tournament analysis with Juho Kim (UofT Eng Sci, 4th Year) using PVA dataset.
- Developed statistical models for chip stack dynamics and tournament strategy analysis.
- Paper to be submitted to IEEE CoG 2025.

LOCKIN! | *React, TensorFlow, FastAPI* — Jan. 2024

- Built focus-tracking platform using TensorFlow.js for real-time facial recognition and attention monitoring.
- Developed React frontend with gamified focus-testing modules and progress tracking.
- Implemented FastAPI backend for user authentication and focus metrics analytics.

Cognspective | *React, TensorFlow, Python* — Jan. 2024

- Created teaching reinforcement platform using TensorFlow for facial expression and speech analysis.
- Built multi-level teaching scenarios to identify knowledge gaps through explanation.
- Developed real-time AI feedback system for presentation analysis and improvement.

Stock Volatility Prediction | *Python, Machine Learning* — Oct. 2024 – Nov. 2024

- Implemented Scikit-learn's Linear Regression model to forecast stock volatility.
- Cleaned and prepared financial datasets by detecting and addressing outliers and missing data.
- Applied Matplotlib to create detailed visualizations of model predictions and performance metrics.

Technical Skills & Interests

Relevant Coursework: Programming, Data Structures & Algorithms, Linear Algebra
Skills: Python, C, PyTorch, Git, Docker, VS Code, LaTeX
Libraries: pandas, NumPy, Matplotlib, scikit-learn, TensorFlow
Interests: ML, Quant Finance, Investing/Crypto, Poker, Piano