Nelson Siu

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Education

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

- ***Intended Major:*** *Math, Statistics, and Financial Engineering*
- ***Relevant Coursework:*** *Introduction to Programming, Engineering Math and Computation*

Markville Secondary School — Markham, ON
Grade 12 Average: 97% — *Aug. 2020 – Jun. 2024*

Experience

Software Engineer — Sep. 2024 – Present
Blue Solar Sky 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)

Projects

Stock Volatility Prediction Using Supervised Machine Learning | *Python* — 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, residuals, and performance metrics

Gomoku | *Python* — Oct. 2024 – Nov. 2024

- Developed an AI engine to play Gomoku, a Japanese strategy board game
- Implemented a heuristic function to evaluate board positions
- Built a simple graphical interface using Pygame for user interaction
- Optimized AI decision-making with move ordering techniques
- Achieved a 75% win rate against preset difficulty levels

Personal Website | *JavaScript, CSS, React* — Oct. 2024 – Present

- Currently developing personal website showcasing project portfolio, resume, etc.
- Containerized via Docker, with plans to deploy on AWS Amplify

Technical Skills & Interests

Skills: Python, C, PyTorch, Git, Docker, VS Code, MS Office, LaTeX
Libraries: pandas, NumPy, Matplotlib, scikit-learn, yfinance
Certifications: Harvard CS50, HackerRank Python (Basic)
Interests: Machine Learning, Quant Finance, Investing/Crypto, Poker, Piano and Cello