

Aryan Singh

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EDUCATION

University of Waterloo

Waterloo, ON

Candidate for Bachelor of Computing and Financial Management (Co-op)

Expected Apr. 2030

- **Relevant Coursework:** Algorithms & Data Structures, Financial Markets, Data Analytics, Financial Reporting

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript/TypeScript, SQL (MySQL), Bash, HTML/CSS

Data & Analytics: pandas, NumPy, NumPy-Financial, Matplotlib, yfinance, scikit-learn

Frameworks & Technologies: React, Next.js, Tailwind CSS, Node.js, FastAPI

Developer Tools & Environments: Git/GitHub, Linux, VS Code, PyCharm, Jupyter Notebook, Vim, Anaconda

EXPERIENCE

Food & Beverage Service Associate

Mar. 2023 – Aug. 2025

Canada's Wonderland

Vaughan, ON

- Executed **300+ high-volume financial transactions** per shift using **Oracle POS** systems, maintaining **95-99% transaction accuracy** and audit-level accountability during peak operating hours.
- Coordinated and supervised unit operations across **5-10 associates per shift** during peak periods, resolving real-time operational issues to maintain continuous workflow and reduce service delays.
- Led team operations by prioritizing associate responsibilities and adapting workflows in real time, supporting efficient front-line operations for **hundreds of guests per shift** in a fast-paced environment.

International Service Project – Rwanda Missions Trip

Mar. 2024

Shelter Them Poverty Relief — Brampton Christian School

Kigali, Rwanda

- Collaborated within a cross-functional team of **15+ members** to plan and execute a community infrastructure project, successfully meeting all project deadlines despite fixed timelines and logistical constraints.
- Managed resources, materials, and on-site execution during the construction of a **fully functional cow shelter** in partnership with Shelter Them, ensuring on-time completion within a **2-week timeline** under limited resources.
- Planned and executed fundraising and budget allocation initiatives, raising **\$2,000+** and coordinating financial planning to ensure on-time completion under limited funding resources.

PROJECTS

Robo-Advising Portfolio Optimizer | *Python, pandas, NumPy, yfinance*

[GitHub](#)

- Built an end-to-end portfolio construction pipeline using **pandas and NumPy** to filter equities by currency, liquidity, and market capitalization, with data validation to remove invalid or delisted tickers and handle cross-listed stocks.
- Calculated **annualized volatility** to identify and remove **high-risk equities** within each sector, controlling portfolio risk while maintaining sector-level diversification.
- Constructed a **\$1,000,000 CAD market-meet portfolio** by selecting stocks correlated to the **S&P 500** and **TSX Composite** and converting portfolio weights into shares while accounting for FX rates and transaction fees.

Equity Trend Analyzer | *Python, pandas, NumPy, yfinance, Matplotlib, Streamlit*

[GitHub](#)

- Developed an interactive **Streamlit** application using historical market data (yfinance) that enables users to analyze equities and compute core performance and risk metrics, including **maximum drawdown**, total return, and annualized volatility.
- Implemented **trend detection logic** using **linear regression** on log-price data to classify equities as uptrend, downtrend, or no clear trend.
- Built **signal analysis** tools, including moving average crossovers and **RSI (14)** momentum indicators, with input validation, dynamic plotting, and CSV export to support investment analysis.

Portfolio Risk Engine | *Python, pandas, NumPy, yfinance, Matplotlib*

[GitHub](#)

- Implemented a **Monte Carlo-based portfolio risk engine** in **Python** to evaluate risk-adjusted returns using historical market data.
- Simulated **5,000 long-only portfolios** with randomized weight vectors and selected the optimal allocation by maximizing the **Sharpe ratio**.
- Implemented core portfolio risk metrics, including annualized return, volatility, maximum drawdown, **Value at Risk (VaR)**, and **Conditional Value at Risk (CVaR)**, generating portfolio equity curves and risk-return visualizations.