Aryan Singh

647-917-2565 | a923sing@uwaterloo.ca | linkedin.com/in/aryan-singh29 | github.com/aryan29-dev | aryansingh.app

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
Frameworks & Technologies: React, Next.js, Tailwind CSS, Node.js, FastAPI
Data & Analytics: pandas, NumPy, NumPy-Financial, Matplotlib, yfinance, scikit-learn
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*

- Processed 300+ high-volume financial transactions using **Oracle POS** systems, maintaining **95-99% transaction accuracy** and **audit-level accountability** during peak operating hours.
- Coordinated **unit and team operations** during peak periods, resolving real-time operational issues to maintain service continuity across **5–10 associates** per shift.
- Led **team operations** by prioritizing responsibilities and 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** under fixed timelines and logistical constraints, meeting all project deadlines.
- Managed resources, materials, and **on-site execution** to support the construction of a **fully functional cow shelter** in partnership with **Shelter Them**, contributing to project completion under limited resources.
- Planned and executed **fundraising and budget allocation initiatives**, coordinating financial planning to support on-time project 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 across the portfolio.
- 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 API**) that allows users to select an equity and compute core performance and risk metrics, including **total return**, **annualized volatility**, and **maximum drawdown**.
- Implemented **trend detection logic** using log-price **linear regression** to classify equities as uptrend, downtrend, or no clear trend.
- Built **signal analysis** tools, including **moving average crossovers** and **RSI (14)** momentum indicators, along with input validation, dynamic plotting, and **CSV export** to support an 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.