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.
- Supervised and coordinated day-to-day operations across **5–10 associates per shift** during peak periods, providing task delegation and resolving real-time operational issues to maintain efficient service flow.
- Optimized front-line workflows by prioritizing associate responsibilities and adapting processes in real time, supporting efficient service 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 preserving 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
- Developed 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.