

# William Clarke

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## Education

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### University of Waterloo

Waterloo, ON

*Bachelor of Computing & Financial Management (Double Major in Computer Science and Finance)* Expected Dec. 2028

- Relevant courses: Financial Data Analytics, Object-Oriented Programming, Corporate Finance, Probability, Statistics

## Experience

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### Risk Analyst

May 2026 – Aug 2026

*Financial Services Regulatory Authority of Ontario*

Toronto, ON

- Building, streamlining, and validating internal macro-surveillance frameworks to monitor systemic risk.
- Processing automation and documentation enhancement for internal risk modeling processes.
- Researching and analyzing quantitative data to provide input into report design and structure.

### DevOps Developer - Quantitative Technology Services (QTS)

May 2025 – Aug 2025

*Royal Bank of Canada - Capital Markets*

Toronto, ON

- Centralized GitHub development platforms across Capital Markets, which helped save \$800K annually in licensing costs.
- Partnered with developer and trading desk teams to automate platform governance and data workflows.
- Created automation scripts using Python, Jenkins, and REST APIs to streamline large-scale migration of 300+ projects.
- Produced analytics reports tracking migration progress and adoption metrics in Excel, driving data-informed decisions.

### Course Assistant (Assurance and Governance)

Jan 2025 – Apr 2025

*University of Waterloo*

Waterloo, ON

- Monitored, tracked, & documented student attendance and participation to maintain and enhance course engagement.
- Consolidated attendance and performance data with Excel to generate summary analytics for the course instructor.

### Software Developer Intern

June 2023 – Sept 2023

*Ascribe Marketing Inc.*

Remote

- Researched and prototyped AI-driven document analysis tools using Python and the OpenAI API.
- Summarized technical and strategic findings for senior leadership, integrating data, research, and business analysis.

## Projects

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### Generative Engine Optimizer (GEO) | Javascript, Python, PHP

Apr 2026 - Present

- Architecting a modular, decoupled data pipeline to optimize search indexing and retrieval for WordPress websites.
- Implemented a JavaScript and SQL-based system to organize and classify subpage schema in a structured format.
- Designed a framework for generating JSON-LD from HTML using rule-based extraction and schema inference.

### Investment Portfolio Optimizer | Python, Pandas, yfinance

Oct 2024 – Dec 2024

- Built a Python-based analytics tool to retrieve and evaluate equities using risk-adjusted performance metrics such as Sharpe Ratio, volatility, and market capitalization.
- Modeled and visualized portfolio performance to explore trading and hedging implications under different market conditions.

## Technical Skills

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**Languages & Libraries:** Python, SQL (SQL Server), Java, JavaScript, R, C++, C, HTML, CSS, Pandas, Matplotlib, React

**Data & Cloud:** ETL pipelines, Data modeling, REST APIs, Microsoft Azure

**Platforms/Applications:** Git, Linux, Power BI, Tableau, Node.js, Jira, Excel (VBA), PowerPoint, Claude Code

## Extracurriculars & Certifications

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- Microsoft Azure Data Fundamentals (DP-900)
- SQL for Data Science — UC Davis (Coursera)
- Bloomberg Market Concepts
- Data Analyst in Power BI — DataCamp
- Mathematics Endowment Fund Committee Member — Allocated \$200K+ to student initiatives.
- Fraser Institute Student Essay Contest — 5th place in nationwide competition