

Martin Silva-Diaz

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Technical Skills

- **Programming Languages** | Python, SQL, JavaScript, VBA (Excel), R.
- **Libraries** | Python Flask, NumPy, Pandas, Scikit-Learn, XGBoost, matplotlib, React.
- **Data & Analytics** | Predictive Modeling, Feature Engineering, Data Cleaning, Statistical Analysis, Model Evaluation.
- **Languages** | English (fluent), Spanish (fluent), French (DELF Diploma).

Experience

Business Administrator Intern | Scotiabank (Wealth Management) Jan 2026 – Apr 2026

- Automated reporting workflows using Excel VBA improving speed, consistency, and reliability of report delivery.
- Designed and built a data processing tool to aggregate and transform monthly trading activity into categorized outputs for analysis.
- Monitored and analyzed client trade activity to support compliance insights used in external agency communications.
- Collaborated with Anti-Money Laundering (AML) team to review client documentation, supporting regulatory risk mitigation

Autonomy Software Developer | Waterloo Aerial Robotics Group Aug 2025 – Dec 2025

- Took part in autonomy software development with the Waterloo Aerial Robotics Group focused on drone autonomy & telemetry.
- Developed automated parameter verification tool for 1,000+ flight control settings using MAVLink data from a Pixhawk interface.

Product Compliance Intern | IPEX by Aliaxis May 2025 – Aug 2025

- Developed Product Quality Plans supporting risk-based quality assurance and testing for 500+ thermoplastic products across multiple fabrication plants serving municipal water infrastructure projects across North America.
- Designed a defect-quantification documentation for fabricated products minimizing risk of health and safety exposure.
- Collaborated with engineers and quality teams nationwide to ensure consistent regulatory compliance across plants.

Backend Software Engineer | Kspace Technologies Apr 2025 – Aug 2025

- Volunteered at a startup technology company focused on building secure, scalable software and financial technology platforms.
- Contributed to a prototype financial platform with mobile app integration for secure data management.
- Built backend systems and APIs to handle client information and financial transactions.

Aquatics Instructor/Lifeguard/Cashier | Town of Oakville Sep 2023 - Aug 2024

- Managed and coached 50+ students per term, improving participant progress tracking using structured assessment reports.
- Worked in financing transactions and regulatory reporting of sales with accuracy and demonstrated strong interpersonal skills.

Projects

Stock Portfolio Analysis Tool | *Python Flask, PostgreSQL, Pandas, NumPy, React, Bootstrap*

- Developed a full-stack portfolio analysis tool enabling users to track customized portfolios, visualize historical performance, and compute the efficient frontier using 20,000 Monte Carlo simulations to evaluate risk-return trade-offs.
- Computes recommended equity allocations based on user preferences including max Sharpe ratio, volatility, and target return.
- Allows users to save portfolio data through a PostgreSQL + Supabase server; <https://portfolio-metrics-analyzer.vercel.app/>

Loan Risk Machine Learning Model | *Python, Sci-Kit Learn, matplotlib, XGBoost*

- Created a loan default prediction workflow using real LendingClub loan data to classify loans as fully paid or charged off.
- Performed exploratory data analysis, feature engineering, class imbalance handling, and model comparison across Logistic Regression, XGBoost, and Random Forest models; <https://github.com/msilvadiaz/Loan-Risk-Machine-Learning-Model>

Portfolio Website | *React, Next.js, TailWind, Framer Motion*

- Developed a React based portfolio website to showcase experience & projects; <https://martin-silva-diaz.vercel.app/>

Education

University of Waterloo Sep 2024 - Apr 2029

Bachelor of Applied Science in Management Engineering (Artificial Intelligence Option)

- Coursework in software design, data structures & algorithms, probability & statistics, economics, databases and optimization.
- Building foundational skills in full-stack development, data science and machine learning.

Sheridan College Jul 2023 - Aug 2023

- Data Science Foundations Course - part of the Certification in Data Analytics (CDATA)