Paula Amaya

✉ hello@paulaamaya.com   in paulaamaya   ⌨ paulaamaya   🌐 paulaamaya.com

Education

HBSc in Computer Science & Mathematics   **2022 - Present**
University of Toronto   *Toronto, ON*

Work Experience

Machine Learning Research Assistant   **May 2025 – Sep 2025**
University of Calgary   *Calgary, AB*

- Develop machine learning models using **scikit-learn, NumPy and SciPy** to improve the selection and tuning of numerical integrators for solving ordinary differential equations in physical simulations.
- Build **classification models** (LDA, kNN, neural networks) to select optimal integration methods and **regression models** to fine-tune their parameters.
- Evaluate models against hand-tuned baselines for **runtime** and **accuracy** on simulated physics datasets.

Information Technology Analyst Intern   **May 2024 – Aug 2024**
River Valley School   *Calgary, AB*

- Led pilot implementation of Jira Service Management (JSM) from inception, including **proposal development**, presentation to senior management, rollout, and staff-wide training.
- Developed custom **data-wrangling middleware** to integrate PowerSchool SIS with internal analytics dashboards, enhancing real-time data reporting and decision making.
- Participated in **automation** of staff onboarding processes, ensuring consistent and compliant provisioning of technology resources for new hires.
- Conducted a database cleanup initiative, overseeing the mass update of staff records while maintaining cross-system **data integrity**.

Risk Strategy Intern   **May 2022 – Aug 2022**
Wave Financial   *Toronto, ON*

- Planned, developed, and delivered database documentation for 15+ tables stored in an Amazon Redshift warehouse.
- Developed 10+ **SQL** functions to to generate periodic database triggers used in various reports.
- Created and deployed a real-time analytics dashboard using **Python, Numpy, and Pyplot**, containing 20+ metrics related to the company's most profitable payments line of business.
- Conducted regular data quality checks to ensure integrity and compliance with industry standards and regulations.

Volunteering

Computer Technician   **May 2025 – Aug 2025**
Electronics Recycling Association   *Calgary, AB*

- Disassemble, test, and refurbish computer hardware including RAM, HDDs, CPUs, and power supplies.
- Perform system diagnostics and monitoring tests on donated devices; strip non-functional systems for reusable parts.
- Organize components by interface and size (IDE/SATA drives, VGA/DVI cables) to support repairs and recycling.

Embedded Systems Developer   **Sep 2023 – Aug 2024**
University of Calgary Solar Car   *Calgary, AB*

- Collaborated with a team of developers and engineers to design and implement software solutions for electronic control systems using a **C/C++** development environment.
- Conducted research on the Orion Battery Management System (BMS) and its integration capabilities.
- Developed **documentation** detailing BMS functionality and best practices for incorporating its data-gathering features into the vehicle's advanced **analytics** ecosystem.

Skills

Programming Languages: C/C++, Java, Python, SQL
Operating Systems/Scripting: Bash, Linux (Arch, Debian)
Tools/Technologies: Confluence, Docker, Git, Jira, LaTeX, Markdown, OpenGL
Libraries: matplotlib, NLTK, NumPy, pandas, PyTorch, scikit-learn, TensorFlow

Honors & Awards

NSERC Undergraduate Student Research Award   **May 2025**

Natural Sciences and Engineering Research Council of Canada   *Calgary, AB*

Awarded funding to research machine learning-guided optimization of numerical integrators for simulating physical systems, under the supervision of Dr. Adam Runions.

Diversity in Mathematical Sciences 2024   **Aug 2024**

The Fields Institute for Research in Mathematical Sciences   *Halifax, NS*

Awarded funding to participate in a commutative algebra program at Dalhousie University, collaborating with students and faculty from North America.