SAMANTHA ADAMS

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EDUCATION

University of Toronto: Bachelor of Applied Science in Materials Science Engineering, Minor in Artificial Intelligence Engineering September 2024 – Present

- **Second Year Average:** 94.4%
- **Clubs and Activities:**
  - Developing kernel ridge regressors under Dr. Anatole von Lilienfeld trained on sorted Coulomb matrices to predict atomization energies of complex molecules
  - Project Lead of Dashboard in the Driver Interface Team at University of Toronto Formula Racing
    - Leading a team of 4, assuring quality and task completion in coordination with other sections
    - Creating parts and assemblies based on ergonomic experiments, driver feedback, and literature to construct to an optimal dashboard and dashboard layout (Using SolidWorks and CollabCAD)
    - Manufacturing carbon fiber prototypes and performing testing to ensure their success in practice
- **Relevant Coursework:** Calculus I, II & III, Linear Algebra (Using MATLAB), Introduction to Computer Fundamentals (Using C, VS Code, and Github), Statistics and Numerical Methods (Using Python and VS Code), Communications I & 2 (Using SolidWorks), Mechanics of Solid Materials (Using ANSYS)

Sacred Heart High School: Ontario Secondary School Diploma September 2017 – June 2024

- **Grade 12 Average:** 96.3%
- **Relevant Coursework:** Computer Science (Using Java, Eclipse, and Github)

EXPERIENCE

Undergraduate Researcher at the University of British Columbia April 2025 – August 2025

Supervised by Dr. Davide Elmo, Norman B. Keevil Institute of Mining Engineering

- First-authored 2 papers at the intersection of ML and geotechnical engineering, implementing random forests, gradient boosted random forests, and support vector machines (Using Python and Jupyter Notebook) and performing data analysis and dimensionality reduction techniques
- Co-authored a paper discussing empirical methods, uncertainty, and professional responsibility in rock engineering
  - *© Elmo D., Adams S. 2025. Rock Engineering Knowledge and Radical Uncertainty: From Empirical Methods to Professional Practice. Geosciences, November 2025.*

Mineral Spectrophotometry ML Analysis Project February 2024 – June 2024

Supervised by Sean Clark, Sacred Heart High School

- Contributed to a comprehensive GitHub toolkit accessible to more than 20,000 students, enhancing educational resources within the Ottawa Catholic School Board (Using Python, Jupyter Notebook, and Github)
- Led the development of 5 CAD models helping gather accurate spectral signatures, ensuring accuracy and precision for research use

Aquatics Supervisor and Front Desk Lead April 2022 – August 2024, April 2025 – August 2025

- Led a team of 70+ swim instructors and 10 front desk team members to deliver exceptional swimming lessons and customer service to more than a thousand of families each week
- Trained 20+ employees and conducted ~50 performance evaluations, providing actionable feedback and helping to foster a culture of growth and safety
- Taught 1,000+ swimming lessons to children between 6mo. and 14yrs., catering each lesson to best suit the learning style of each student

SKILLS & CERTIFICATIONS

Technical Skills: MATLAB, C, Python, Java, VS Code, Jupyter Notebook, Eclipse, Github, SolidWorks, ANSYS, CollabCAD
Certifications: Certified SolidWorks Associate (CSWA)
Professional Skills: Adaptability, problem-solving, team leadership, project management, employee training and evaluations
Languages: English (Native), French (Proficient)