





ANTHONY WROBLEWSKI

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 [AnthonyWro](#)

SUMMARY

I am an eager to learn second years student in a unique B.Sc. program dedicated to Quantum Information Science. Driven by the desire to know and understand, I have made it my mission to help paved the gap between quantum theory and real-world applications. I am a firm advocate of hard work over innate talent and believe that the most valuable skill is ability to learn.

ACADEMIC BACKGROUND

B.Sc. in Quantum Information Science

Université de Sherbrooke

 Sept. 2024 - May. 2027

 Sherbrooke, Canada


- New interdisciplinary bachelor's program (Physics, Mathematics, Computer Science) designed to train quantum algorithm developers.
- Core coursework in Quantum Information, Quantum Algorithms, and Quantum Mechanics, with multiple project-based courses.
- Additional coursework in Project Management, Entrepreneurship in STEM, and professional development.

WORK EXPERIENCE

Research Assistant in Quantum Chemistry

University of Sherbrooke – Armand Soldera's Group

 Apr. 2025 - Jul. 2025

 Sherbrooke, Canada

- Performed molecular simulations of polymer systems using classical computational methods on Compute Canada HPC clusters.
- Developed and implemented fermionic translation operators using a mix of creation/annihilation operators and Trotter's algorithm.
- Analyzed and validated simulation and algorithmic results in a research-oriented environment.
- **Technologies used:** Python · Qiskit · LAMMPS · Compute Canada HPC · Git

College Research Internship in Chemistry

Cégep de Sherbrooke

 Jul. 2024

 Sherbrooke, Canada

- Performed laboratory experiments as part of a research project in materials and polymer chemistry under Prof. Pierre Baillargeon.
- Prepared samples, followed experimental protocols, and applied laboratory safety procedures.
- **Technologies used:** X-ray Diffraction (XRD) · Infrared Spectroscopy (IR) · High-Performance Liquid Chromatography (HPLC)

STRENGTHS

Autonomy

Communication

Curiosity

Teamwork

Quantum Chemistry

Quantum Variational Algorithms

Quantum Annealing

Qiskit

Git

LaTeX

PROGRAMMING

Python

C++

Java

LANGUAGES

French

English

AWARDS & SCHOLARSHIPS

- Laboratory Work Scholarship for Chemistry Internship (2024)
- Faculty Entrance Scholarship for Academic Excellence, based on college results (2024)
- Selected as Cadet of the Camp among 2,500 Air Cadets (2019)
- Athlete of Excellence Award – Men's Youth Volleyball (2022)
- Student-Athlete Award – Men's Collegiate Volleyball (2024)

WORK EXPERIENCE (CONT.)

Intervention Officer (Safety & Support)

Val-du-Lac Rehabilitation Center (Public Healthcare Network)

📅 May 2023 - Present

📍 Quebec, Canada

- Student job at a residential rehabilitation and care facility within the public healthcare system.
- Ensured safety and well-being of residents through monitoring, de-escalation, and intervention support.
- Responded to crisis situations and assisted healthcare staff during incidents.
- Communicated effectively with multidisciplinary teams in a high-responsibility environment.
- Applied strict protocols related to safety, confidentiality, and ethical conduct.
- **Skills developed:** Crisis management · Communication · Teamwork · Responsibility

OTHER QUALIFICATIONS

- National Lifeguard Certification (Pool and Waterfront)
- Basic First Aid Certification
- Advanced First Aid and CPR Certification
- Training in Crisis Intervention and De-escalation Techniques (public healthcare setting)

NOTABLE PROJECTS

Quantum Chemistry – QAOA for Ground-State Estimation

Course Project

📅 Fall 2025

📍 Sherbrooke, Canada

- Implemented QAOA and Adapt-QAOA as a proof of concept for molecular ground-state energy estimation using the LiH molecular Hamiltonian, evaluating the applicability and limitations of QAOA beyond combinatorial optimization frameworks.

Quantum Optimization - Rydberg Atom Simulations

Course Project

📅 Fall 2025

📍 Sherbrooke, Canada

- Studied and optimized a Pulser-based code to understand analog quantum simulations with neutral atoms, exploring annealing pulse design, system emulation with Qutip, and evaluation of Maximum Independent Set solutions.

Quantum Simulation - Trotterization of Time-Independent Hamiltonians

Course Project

📅 Winter 2024

📍 Sherbrooke, Canada

- Implemented Trotterization methods to approximate and estimate the time evolution of a time-independent Hamiltonian, and analyzed the accuracy and limitations of the approach for quantum simulation.

Quantum Chemistry - VQE for Molecular Ground-State Estimation

Course Project

📅 Winter 2024

📍 Sherbrooke, Canada

- Implemented the Variational Quantum Eigensolver (VQE) from fermionic creation and annihilation operators using the Jordan-Wigner mapping, and validated its functionality by estimating the ground-state energy of the dihydrogen (H₂) molecule.