

# James - Edward Gray

Nanotechnology Engineering Student | University of Waterloo

## INFO

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## EDUCATION

### Nanotechnology Engineering Honours Undergraduate

UNIVERSITY OF WATERLOO

2023-2028

- University of Waterloo Merit Scholarship (2023)

## SKILLS

**Programming Languages:** C++, Python, Qiskit, MATLAB, HTML, CSS, JavaScript

**Software:** Microsoft Office Suite, GitHub, IBM Quantum Simulator, Microsoft Visual Code, Anaconda, AutoCAD, SolidWorks, HitFilm

**Technical:** Circuitry, Computer Building, Soldering, Bolting, Welding, Sound Engineering, Aircraft and Automotive Maintenance

## CERTIFICATIONS AND AWARDS

WHMIS 2015 Certification, Aircraft Maintenance Engineering Course (AATC-AM) Graduation Certificate, Cadet 6 Years of Service Medal, Grade 8 Royal Conservatory of Music First Class Honours with Distinction, Chief Scouter's Award

## PERSONAL INTERESTS AND INVOLVEMENT

**Learning Languages:** Chinese, Japanese, and French

**Sports and Fitness:** Workout and weightlift 5 times a week, competed in multiple biathlon and marksmanship competitions in my cadet career winning first in my minicpal area in 2019, 2020, and 2021, currently in competitive breakdancing club through UW breakers

**Technical:** Console and computer modding (software and hardware), photoshop, content creation, and videoediting

**Creative Arts:** Learning to play the drums, consistent practice in guitar, vocals and piano, Currently involved in the UW visual arts club

## EXPERIENCE

### Quantum Algorithms Research Student

University of Waterloo - Faculty of Engineering || Waterloo, ON | JAN - APR 2025

Focused on exploring quantum algorithms for solving ordinary differential equations (ODEs) using IBM's Qiskit software platform through use of Python and Anaconda. This role involved applying quantum computing principles to develop and implement innovative solutions for ODE problems, contributing to advancing the field of computational physics and engineering.

- Hands on learning with quantum ion-trap hardware.
- Collaborated to create Variational Quantum Linear Solvers (VQLS) using Qiskit.
- Hosted presentations on top research papers, discussing latest advancements in quantum computing theory.

### Design Team Contributor – BioMechatronics

University of Waterloo || Waterloo, ON | APRIL 2025 - PRESENT

Contributed to the design, coding, and 3D printing of prosthetic prototypes in a collaborative team environment. Also responsible for choosing and completing personal projects in a timely manner.

- Led a personal project through the Enable subteam to develop a guitar pick grip aid for a stroke survivor.
- Hands on experience with Arduino IDE (C/C++), connecting circuits with bio sensors, and 3D modeling tools such as, UltiMaker Cura and SolidWorks.
- Through sub team EMG fabric software and hardware, collaborating with group members to create an exoskeleton for grip strength.

### Website Coordinator & Designer

Gray & Associates || Orangeville, ON | JUN - AUG 2024

Built and designed an interactive healthcare information website for: booking appointments, advertisement of products and services, and booking one-on-one consultations. My job was to lead and design the project using approved idea maps and wireframes.

- Exceeded employer expectations in performance and product standards.
- Achieved a VERY GOOD standing co-op rating.
- Coded the website from scratch using: HTML, CSS and JavaScript.

### Marketing Representative – Home Maintenance Services

Student Works || Waterloo-Kitchener, ON | JUN - AUG 2024

Marketed services to potential clients in student run teams. Responsible for refining cold-pitching techniques, building client rapport in high-rejection environments, and meeting lead quotas of 2-3 quotes per shift.

- Consistently challenged the standard, generating 5+ leads per shift.
- Produced a high of 15 consecutive leads in one shift.
- Generated 225+ leads over the season through door-to-door outreach.