

Bach Nguyen

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EDUCATION

Ontario Tech University

Bachelor of Science in Integrated Mathematics and Computer Science

- Cumulative GPA: 3.77/4.3

Oshawa, ON

Sep. 2023 – Apr. 2027

TECHNICAL SKILLS

Languages: Python, Java, C++, SQL, Bash, R

Data Engineering & Analysis: ETL Pipelines, pandas, NumPy, scikit-learn, Matplotlib, Folium

Developer Tools: Azure Cloud, Docker, Apache Airflow, Power Apps, Power Automate, Jupyter

Databases & Scraping: MySQL, SQLite, IBM DB2, BeautifulSoup, Web Scraping

PROFESSIONAL EXPERIENCE

IT Intern

Canadian Mental Health Association

May 2025 – Aug. 2025

Oshawa, ON

- Developed and deployed automated workflows and custom booking systems using Microsoft Power Apps and Power Automate, significantly reducing manual scheduling errors and improving staff efficiency.
- Provided comprehensive IT support and managed server maintenance to ensure uptime for internal systems and critical clinical software.
- Collaborated with cross-functional teams to modernize legacy internal tools, resulting in enhanced data accessibility and improved user experience for over 100+ employees.

Data Engineer (Volunteer)

Statistics Without Borders (Project #279)

Feb. 2025

Remote

- Architected scalable data pipelines on Azure cloud for large-scale biodiversity datasets, enabling researchers to process and analyze complex ecological data more efficiently.
- Evaluated existing cloud storage practices and implemented optimized data organization strategies, reducing query latency and storage costs for the research project.
- Worked in a cross-disciplinary team of statisticians and scientists to ensure technical solutions met rigorous research standards.

PROJECTS

Black-Scholes Option Pricing Engine | Python, NumPy, Matplotlib

Jan. 2026

- Engineered a financial modeling tool to calculate European call and put option prices using the Black-Scholes-Merton differential equation.
- Developed sensitivity analysis tools for “The Greeks” (Delta, Gamma, Vega, Theta, Rho) to visualize portfolio risk and price decay over time.
- Utilized NumPy vectorization to optimize high-volume pricing simulations and Matplotlib for 3D volatility surface generation.

Global GDP ETL Pipeline | Python, BeautifulSoup, SQLite

Aug. 2025

- Built an end-to-end data pipeline to automate the scraping, cleaning, and normalization of international economic data from multiple sources.
- Designed a relational database schema in SQLite to store processed data, enabling efficient longitudinal analysis of global economic trends.

LEADERSHIP & COMMUNITY INVOLVEMENT

Events Coordinator

Ontario Tech Computer Science Club

Sep. 2025 – Present

Oshawa, ON

- Co-organized annual hackathons with 250+ participants, coordinating logistics, sponsor relations, and event-day operations.
- Facilitated technical workshops and networking events for 30+ students, fostering a collaborative learning environment within the CS department.

Peer Mentor & Orientation Leader

Ontario Tech University

Sep. 2024 – Dec. 2025

Oshawa, ON

- Mentored a cohort of 20 first-year students, providing academic guidance and support to improve first-year experiences and campus integration.