

Samuel Velasco - Fullstack Software Developer

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EDUCATION

Bachelors in Software Engineering (BEng) concentration in Scientific Computing

École de Technologie Supérieure • Montréal • Graduation in 2026

- Object-Oriented Programming and Design, Testing, and Maintenance (**Java, C# .NET**)
- Web Programming (**JavaScript, TypeScript, HTML, CSS, Express, Fastify**)
- Parallelization, Computational Efficiency, and Memory Optimization (**C, C++, x86 Assembly**)
- Networking, Security, Operating Systems (**Linux, Ubuntu, Fedora, Mint**)
- High-Performance Databases (**SQL, Oracle SQL, PostgreSQL**)

PROFESSIONAL EXPERIENCE

Fullstack Software Developer (Internship)

Evident Scientific (Olympus NDT)

May 2024 - Present, Montreal

- **Designed and developed** a network diagnostic tool plugin **used by over 100 clients** to analyze ultrasound scanner network connectivity and usage, providing diagnostics for server connections, file analysis, and network details.
- Led the redevelopment of a specialized web application for analyzing solid object thickness using ultrasound technology, leading a team of 5 developers. Utilized **WebSockets on a C++ backend** for precise calculations, **RESTful APIs on a .NET Core backend** for efficient data handling, and an **Angular frontend** for a seamless user experience.
- Conducted user testing sessions with **15+ participants**, integrating feedback to improve the user interface and **increase usability by 20%**.

Laboratory Auxiliary (Student employment)

École de Technologie Supérieure (ETS)

January - May 2023, 2024, 2025, Montreal

- Guided **90+ first-year university students** in computer science fundamentals and software development best practices.
- Supported **3 professors in 4 different courses** in organizing labs and clarifying computer science concepts for Introduction to Web Development (**TCH056**), Networking and Operating Systems (**TCH052**), Databases (**TCH055**) and Object-Oriented Programming (**INF111**) classes.

Frontend Web Developer (Internship)

Evident Scientific (Olympus NDT)

May 2023 - December 2023, Montreal

- Developed web applications for non-destructive testing (NDT) tools used in aerospace, manufacturing, and energy industries, **enhancing testing efficiency for 10,000 engineers and technicians**.
- Implemented features such as the Signal-to-Noise Ratio (SNR) display, processing **3,000+ analysis requests monthly**, and improved interface **responsiveness by 20%**.
- Worked in an Agile environment with a team of **20+ developers**, using Angular, TypeScript, and Jest to maintain **95% test coverage**.

PROJECTS

Particle Simulator - C, C++ and OpenMP

- Developed a custom 3D particle simulator with a matrix library and basic physics engine, simulating realistic particle behavior using Newton's laws.
- **Achieved an 11x improvement in performance** by implementing parallelization techniques, leveraging SIMD (Single Instruction, Multiple Data) and OpenMP for efficient computation.
- Reduced computation time for **large-scale simulations from 10 minutes to just 60 seconds**, enabling faster analysis and visualization.

Nutrition and Calorie Tracking System - FullStack Web and Mobile application

- Developed a **React frontend** and **React Native mobile app** using Expo, with an **ASP.NET Core** backend powered by **Entity Framework** and a **PostgreSQL** database running on **Docker**.
- Integrated the **OpenFoodFacts API** to allow users to scan products and automatically add them to their daily food log, improving tracking efficiency.
- Collaborated with a **graduate student in physical activity and nutritional science** to estimate personalized macronutrient needs based on user weight, age, and physical activity level.
- Utilized **Firebase Authentication** for secure and scalable user login and session management.

INVOLVEMENT

Student Ambassador - Software Engineering Program

École de Technologie Supérieure - November 2024

- Led campus tours for prospective students, providing insights into academic programs, facilities, and student life.
- Answered questions and shared personal experiences to help visitors make informed decisions about their education.

RockETS - University Rocketry Scientific Club

September 2022 - May 2023

- Development and maintenance of the club website using **JavaScript** and **React**.
- Embedded systems and low-level programming with **C** on **STM32**.
- Acquisition of experience in creating graphical interfaces through ground station programming using **Qt** and **C++**.