

Zachary J. Levesque

Ottawa, ON | zlevesque93@gmail.com | linkedin.com/in/zachary-levesque | github.com/Zachary-Levesque | zacharylevesque.site |

TECHNICAL SKILLS

Programming: Python, C, C++, C#, Java, Assembly, Verilog, TypeScript, JavaScript, HTML, MATLAB
AI & ML: Neural Networks, PyTorch, TensorFlow, Qiskit, Training, Validation & Deployment, Quantum Computing
Simulation: CAD, TCAD, FEM, Simulink, Multisim, Mathematical Modeling
Circuits & IC Design: Digital + analog design, analysis & synthesis (Verilog, Synopsys), signal processing
Hardware & Embedded Systems: Arduino, STM32, ESP, R-Pi, optical linecards, embedded systems, I2C/SPI/UART protocols
Software & Tools: FastAPI, React.js, PostgreSQL, Docker, Git, Linux
Professional: Data analysis, problem solving, leadership, bilingual (French, English)

EDUCATION

University of Ottawa Ottawa, ON
B.Sc./B.A.Sc. (Double Major) in Electrical Engineering and Physics *Sep 2022 – Expected Apr 2027*

- CGPA: 9.92/10 (4.0 GPA)
- 8× Dean's List (2022–2026); multiple Faculty of Engineering & Science Recognitions of Excellence
- Awarded the International Experience Bursary to attend NCKU Digital IC Design & Synthesis (Taiwan, 2025): 98% best in class
- ASCOT Recognition of Excellence Scholarship, Electro Federation Canada (2024)
- Admission Scholarship, University of Ottawa (2022) – awarded for a 98% average (4.0 GPA)

EXPERIENCE

Ranovus Inc. Kanata, ON
Systems Verification Engineer *May 2026 – Present*

- Design and develop embedded firmware and board-level communication protocol stacks (I2C, SPI) for MCU-based hardware platforms
- Perform PCB-level signal analysis and hardware debugging, backed by automated Python test scripts and validation infrastructure

Seets Inc. Ottawa, ON
Co-Founder & CEO *May 2026 – Present*

- Co-founded and lead an IoT occupancy-tracking startup, owning product vision, system architecture, and full-stack engineering execution
- Took the product from capstone concept to a live pilot deployment at the University of Ottawa Heart Institute

APRIQuOt Ottawa, ON
Quantum AI Researcher (Intern) *Sep 2025 – Apr 2026*

- Applied machine learning to quantum state tomography, training neural networks to reconstruct multi-qubit quantum states from measurement data
- Used Qiskit to simulate and study quantum chaos in complex multi-qubit systems, supporting ongoing quantum information research

University of Ottawa Ottawa, ON
Teaching Assistant – ELG 3525, PHY 1722 *Sep 2025 – May 2026*

- Led tutorials across two courses for both engineering (Signal & System Analysis) and physics (Physics II) undergraduates
- Provided 1:1 and small-group academic support to students through the Physics Help Centre

Huawei Ottawa, ON
Systems Engineer – Optical Communications (Intern) *May 2025 – Aug 2025*

- Conducted R&D on high-speed optical data transmission, designing communication links using EDFA, WSS, transceivers, and OSA hardware
- Built Python automation for link control and data acquisition, applying statistical analysis to boost throughput and measurement turnaround

Thin-Film Electronics Laboratory Ottawa, ON
Semiconductor Engineer (Intern) *Jan 2025 – Apr 2025*

- Developed TCAD physical simulation models to characterize non-linear charge injection behavior in n-type organic transistors
- Built Python and MATLAB tools to model, analyze, and improve transistor performance and efficiency

Hydro Ottawa Ottawa, ON
Data Engineering Intern *May 2024 – Aug 2024*

- Analyzed GIS data for the city's electrical distribution network to guide infrastructure planning and development
- Built ML models to automate crew placement, material and tool allocation, project tracking, and budget forecasting

PROJECTS

Knovara | *FastAPI, ChromaDB, OpenAI API, Next.js, TypeScript* May 2026 – Present

- Building an AI copilot that helps new engineers ramp up and become productive faster, piloting with Seets as first customer

Mini Tensor Engine | *C++, AVX2 SIMD, Python* Jan 2026 – May 2026

- Built a custom C++ engine from scratch that runs AI computations over 3× faster through low-level performance optimization

Quantum Math Quest | *Python* Nov 2025

- Built an adaptive learning game that adjusts difficulty in real time, blending game design with quantum-inspired concepts

Adaptive Market Regime Framework | *Python, HMMs, RL* Aug 2025 – Dec 2025

- Built a machine learning system that detects shifts in market conditions and adjusts strategy automatically, beating the S&P 500 benchmark

Sports Strategy Engine | *Python, FastAPI, React, SQLite* May 2025 – Sep 2025

- Built a golf strategy tool that simulates thousands of outcomes to recommend the optimal shot under real-world uncertainty

Real-Time Trading System | *FastAPI, React, PostgreSQL, Redis* Jan 2025 – May 2025

- Built a full-stack platform that analyzes live market data and generates clear, explainable buy/hold/sell recommendations

AI Games & Logic Solvers | *Python, PyTorch* Sep 2024 – Dec 2024

- Built a collection of AI agents that master classic games and solve complex logic puzzles using advanced decision-making algorithms

AI Agent/Workflows | *Python* Apr 2024 – Jun 2024

- Built a suite of AI-powered tools that automate scheduling, lead generation, and research, saving hours of manual work

ParaPicture Solutions | *Hardware Prototyping* Sep 2023 – Dec 2023

- Engineered an assistive robotic arm that lets individuals with limited mobility independently take photographs

1Chat4You | *TypeScript* Jan 2023 – Apr 2023

- Built a communication platform that makes coordinating between landlords and tenants seamless and secure

CircuitFlow | *TypeScript, Circuit Design & Analysis* Sep 2022 – Dec 2022

- Built a real-time circuit simulator that lets users design and analyze electrical circuits interactively