

Brian Kostandin Pane

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Professional Work Experience

Government of Ontario – Software Engineer, Co-op (May 2026 – Present)

- Collaborate across OBR Automation Testing, CRA/MOF Broadcast Application, EWRS Development and OBR Issue Resolution teams.
- Develop and maintain backend unit tests using C#, .NET and xUnit to improve test coverage, code quality and application reliability.
- Deliver Angular-based interface enhancements, bug fixes and technical documentation supporting applications used by thousands of users.

PledgeApp.ca – Co-Founder & Software Engineer (Nov 2024 – May 2026)

- Engineered a platform enabling businesses to run customer pledge campaigns with automated discount fulfillment
- Built a FastAPI backend integrated with Supabase (PostgreSQL) to manage users, businesses, campaigns, pledges, and coupons
- Integrated Stripe payment processing and webhooks to support secure wallet-based transactions, handling end-to-end flow from pledge creation through payment capture
- Deployed and maintained the application in production, debugging issues, and iterating features

Projects

4-Bit Binary Calculator – Lassonde School of Engineering (Dec 2025)

- Designed and implemented a 4-bit binary calculator in Verilog using Boolean algebra with both combinational and sequential digital logic, and verified functionality through simulation and FPGA testing

Automated Hand Sanitizing Device – Lassonde School of Engineering (Nov 2024 – Dec 2024)

- Engineered Arduino-based contactless dispenser combining motion sensing with precise pump control, designed for deployment in high-traffic public areas

Technical Skills

Languages: Python, C/C++, JavaScript, MATLAB, Verilog, HTML/CSS, Assembly RISC-V

Hardware: Arduino, DE10-Lite FPGA, Oscilloscopes, Breadboarding, Soldering, Function Generators

Frameworks & Tools: FastAPI, Supabase, Git, VS Code, Quartus Prime, Microsoft Office, CAD, ModelSim, ESP-IDF

Education

Bachelor of Engineering (B.Eng), Electrical Engineering

Lassonde School of Engineering – Toronto, Canada | GPA: 3.6/4.0 | Expected Graduation: 2028

- Relevant Coursework: Object-Oriented Programming, Procedural Programming & Mechatronics, Electrical Circuits & Devices, Engineering Design Principles, Computer Organization, Digital Logic Design, Embedded Systems, Signals & Systems, Electricity & Magnetism.
- Conducted undergraduate research in neuromorphic computing, analyzing spiking neural network (SNN) architectures for energy-efficient AI
- Academic All-Canadian Award, Gordon & Agnes (Twambley) Brash Award in Engineering