

EDUCATION

-
- Bachelor's of Electrical Engineering | University of Victoria** **Jan. 2021 – Apr. 2023**
- **Programming Coursework:** AI, Blockchain, Computer Vision, Cryptography, Data Structures & Applications, Mechatronics, Numerical Analysis, Programming for Engineers
 - **EE Coursework:** Information Security & Privacy, Communication Networks, Microprocessors
- Electrical & Computer Engineering Advanced Diploma | Camosun College **Jan. 2020 – Dec. 2020**
Electrical Engineering Advanced Diploma | Georgian College **Sep. 2015 – Aug. 2018**

EMPLOYMENT

-
- Software Engineer, Co-op** **Government of Canada (ISED)** **Sep. 2022 – Apr. 2023**
- Implemented a successful cybersecurity R&D initiative by leading a Software Bill of Materials proof of concept leveraging *Python, Flask, Docker, AWS, HTML, CSS* and *JavaScript*.
 - Collaborated with a forum of 25+ public and private sector experts to create and implement cybersecurity and internet resilience risk management practices across Canada.
 - Conducted cybersecurity research in software supply chain, cloud infrastructure, AI, ransomware, vulnerabilities and incidents, guiding division initiatives and communicating key insights through a bi-weekly 2-page newsletter.
- Automation Engineer, Co-op** **Barrie Welding & Machine** **May. 2021 – Aug. 2021**
- Co-led the design and programming of multiple simultaneous industrial automation projects using *AutoCAD* and *RSLogix*, with project budgets ranging from \$50,000 to \$1 million.
 - Streamlined design processes by producing template design drawings, reducing engineering design time by 20%.
- Engineering Technologist** **Binnie (Consulting)** **Nov. 2018 – Dec. 2019**
- Managed 20+ construction projects, acting as the main point of contact between customers, suppliers, engineers, and contractors resulting in a 10% reduction in project costs.
 - Created comprehensive project build packages and instruction drawings using *AutoCAD* for construction, bidding, and project management, resulting in timely completion of projects with revenue exceeding \$5 million.
 - Analyzed data and modelled behaviour of pump stations, providing valuable insights and operational recommendations that enhanced performance and efficiency.

UNIVERSITY SOFTWARE PROJECTS

-
- **Template Detection in Noisy Images:** Developed a *Python* and *OpenCV* computer vision program for noisy multi-object detection, improving detection accuracy by 20% using a clustering reduction algorithm
 - **Differential Cryptanalysis Attack:** Co-developed and wrote a cryptanalysis attack in *Python*, successfully recovering a secret key from a 16-bit private-key cryptography scheme similar to AES in under 5000 iterations
 - **Sealed Envelope Auction Smart Contract:** Designed a sealed envelope *Solidity* smart contract leveraging cryptography to disguise transactions, improving security and confidentiality in auction transactions
 - **Mechatronics Efficient Assembly Line:** Wrote efficient *embedded C* code for an assembly line process using a sliced S-Curve, resulting in a 50% increase in sorting speed, Achieving a runtime of 32 seconds, ranking in the top 3

VOLUNTEER EXPERIENCE

-
- Project Manager. & Instructor** **JABC & HighTechU** **Jan. 2023 – Jun. 2023**
- Mentored JABC company program, helping high school students build programming skills (*HTML, CSS, JavaScript* and *C++*) and create their own technology business from the ground up

UNIVERSITY CLUB INVOLVEMENT

-
- **Cybersecurity Club:** Participated in weekly meetings about ethical hacking tactics and capture-the-flag events
 - **Financial Investment Group:** Guided discussion in meetings about financial markets and business performance

SKILLS

-
- **Languages** *Python, C, CSS, HTML, C++, JavaScript, Solidity, MATLAB, R*
 - **Frameworks:** *AWS, Docker, Flask, Git, Linux/UNIX*