Sebastian Veliz

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Career Objective

Motivated Information Systems Engineering student with a passion for technology and a strong interest in data analysis and cybersecurity. Through my academic journey, I have developed hands-on experience in system design, software development, machine learning fundamentals, and network security. I am seeking a 4–12-month co-op term for Fall 2025 to apply my skills, explore career opportunities, and deliver innovative solutions to complex challenges.

Education

Humber Polytechnic | *BENG - Information Systems Engineering* *Expected Graduation: April 2027*

- Completed coursework: Operating Systems, Object-Oriented Programming, Discrete Mathematics, Data Structure and Algorithms, Digital & Embedded Systems, Databases, Artificial Intelligence, Virtual Platforms Technologies, Data Security, and Computer Forensics.
- Degree Entrance Scholarship Recipient

Technical Skills

Programming & Development: Python, Java, SQL, C, Dart, Flutter
Cloud & Networking: AWS (EC2, S3), Cisco Packet Tracer, VirtualBox, VMware
Security & Forensics: Scapy, Nessus, Wireshark, OpenVAS, Burp Suite, EnCase, Autopsy, FTK Imager
Machine Learning & Data: NumPy, Pandas, Scikit-learn, TensorFlow
Tools: GitHub, UML, Microsoft Office

Projects

Humber FindIt – Lost & Found Mobile App March 2025 – April 2025

- Built a Flutter app with Firebase (Auth, Firestore, Storage) to digitize Humber College's lost and found system.
- Implemented key features: item reporting, admin dashboard, claim submission with QR code verification.
- Led backend tasks: image uploads, claim logic, QR scanning, and Firestore structuring using Clean Architecture.
- Collaborated in a team of 4, contributing to system design, testing, and Agile project planning.

Humber FindIt – Software Engineering Project March 2025 – April 2025

- Produced full Software Requirements Specification (SRS) and documented Clean Architecture and modular design.
- Designed comprehensive UML diagrams: use case, sequence, class, state, activity, and deployment diagrams.
- Developed detailed algorithm flows, system models, and testing plans to support implementation.
- Worked as a team of 2, sharing responsibilities for documentation, modeling, and Agile project management.

Intrusion Detection and Prevention System (IDPS) – ARP Spoofing Simulation March 2025 – April 2025

- Developed a Python-based IDPS to detect and block ARP spoofing attacks using Scapy and iptables.
- Programmed both the ARP spoofing attack script and defense script to simulate and mitigate man-in-the-middle attacks.
- Enhanced real-time logging, ARP table restoration, and IP blocking in a virtualized lab.
- Worked in a team of 2, co-developed scripts, and shared simulation and reporting tasks

University Campus Network Design & SDN Integration March 2025 – April 2025

- Simulated a dual-campus network in Cisco Packet Tracer with VLANs, trunking, and static routing for full inter-campus communication.
- Verified connectivity via ping tests, MAC table checks, and CLI troubleshooting; configured router-on-a-stick for inter-VLAN routing.
- Integrated SDN using Mininet and OpenDaylight for dynamic flow control and tested OpenFlow connectivity.
- Collaborated in a team of 4 on design, implementation, and SDN integration.

Table Tennis Match Predictor December 2024 – February 2025

- Developed an automated web scraper using Selenium and BeautifulSoup to extract match data, head-to-head records, and betting odds.
- Processed and structured large datasets with Pandas, ensuring clean and reliable data for analysis.
- Trained and optimized an XGBoost model to predict match outcomes using historical match data.

Tic Tac Toe on Raspberry Pi Mar 2024 – Apr 2024

- Built a GUI-based Tic Tac Toe game in Python with Player vs Player, Weak AI, and Minimax AI modes using Tkinter.
- Implemented networked multiplayer using Python sockets and synced game data to Google Sheets via Flask and Google Cloud API.
- Designed a normalized MySQL database to track players, moves, and game outcomes.
- Collaborated in a team of 2, focusing on backend integration, cloud connectivity, and gameplay logic.

Ambient Light Detector Nov 2023 – Dec 2023

- Designed and built an ambient light detector in a team of 2, using an LM358 op-amp, LDR sensor, and adjustable potentiometer for dynamic light threshold comparison.
- Integrated the circuit output with an FPGA using Vivado and implemented voltage divider logic to control LED output and ensure safe current levels.

Remote-Controlled Car Mar 2023 – Apr 2023

- Assembled and programmed a 4WD smart car to autonomously navigate a maze using C, integrating ultrasonic sensors and remote-control features.
- 3D-modeled the car components in SolidWorks.
- Debugged real-time navigation issues and collaborated in a team of 2 to complete simulation, testing, and live demonstration.

Work Experience

New Tech Intern, *Nestle Central America (Panama)* June 2024 - July 2024

- Led a VR Tour Experience Project for Nestlé's Central America head offices.
- Shadowed the FRM Digital & New Tech lead, gaining insights into implementing innovative technologies to optimize operations and productivity.
- Led virtual experience for new interns and employees during orientation and induction.

Bartender/Hostess, *Mandarin Restaurant* March 2023 - August 2023

- Provided excellent service during peak operating hours, ensuring a positive guest experience in a fast-paced environment.
- Trained new staff and manage inventory to ensure smooth operations.