BRETT DIONELLO

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EDUCATION

UNIVERSITY OF VICTORIA, Victoria, BC   **January 2023 – April 2025**
Bachelor of Engineering in Computer Engineering (BEng)

CAMOSUN COLLEGE, Victoria, BC   **January 2022 - December 2022**
Engineering Bridge Advanced Diploma

SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY, Calgary, AB   **September 2017 - April 2019**
Electronics Engineering Technologist Diploma

SOUTHERN ALBERTA INSTITUTE OF TECHNOLOGY, Calgary, AB   **September 2010 - April 2014**
Red Seal Cabinet Maker Journeyman Certificate

EXPERIENCE

VIVITRO LABS INC, Victoria, BC   **January 2024 - May 2024**
Biomedical Engineering Co-op Student

- Build and test proof of concept prototypes for an electromagnetic flow meter.
- Create Electrical systems.
- Design parts/systems/subsystems according to design control procedures.
- Document design according to design/document control procedures.
- Verify design and validate product prototypes.

REACH TECHNOLOGIES INC, Victoria, BC   **May 2023 - September 2023**
Embedded Software Co-op Student

- Integrated a SQL based configuration database using Microsoft Azure and NuGet package management.
- Contributed to the development of a video processing application in C#.
- Developed Linux systems using PetaLinux and Vivado for a Kria SOM development board to be used in a camera stabilization platform.

NICHOLSON MANUFACTURING LTD, Sidney, BC   **May 2022 - September 2022**
Electrical Engineering Co-op Student

- Devised a 3D-Scanning in-feed detection system, interfacing an Allen-Bradley PLC over EtherNet/IP to an HMI while programming functional-block and structured-text in CodeSYS to develop a functional prototype.
- Collaborated with Engineering to make schematic revisions on electrical panels, using AutoCAD and version control software to update large batches of drawings.
- Cooperated with engineering and manufacturing departments to perform quality assurance testing on electrical control panels; deploying RSLogix500 to program and test the PLC and verifying correct functionality of panel inputs and outputs.

BENTEK SYSTEMS LTD, Calgary, AB   **April 2019 - June 2021**
Field Service Technician/Technologist

- Performed on site services for SCADA and telemetry systems, installing antenna, feedline and transceivers, testing with cable-testers, watt-meters and diagnostic software, resulting in robust systems and dozens of positive service reviews.
- Collaborated with Engineering and production to commission communication and control devices, installing firmware, configuring to specifications and performing functional tests to facilitate the delivery hundreds of high-quality products.
- Consulted with Engineering to develop a cellular-IOT product; utilizing the XBee-3 hardware, MQTT protocol and programmed in micro-python, resulting in a prototype RTU with similar functionality of existing products within the company.

PERFECTION MILLWORK, Calgary, AB   **August 2016 - September 2018**
Cabinet Maker
- Produced commercial woodwork products in a shop setting, working alone and in teams to turn blueprints into products by cutting, shaping and joining materials, applying years of experience to deliver professional quality.

CRAZY CREEK TIMBER FRAMES, Okotoks, AB   **December 2014 - December 2015**
Carpenter/Site-Manager
- Coordinated a small team to raise timber-frame structures; leveraging traditional and modern techniques to layout and cut timbers in shop and later assemble and raise on site, led the completion of dozens of frames and structures.

SKILLS
- Adaptability to changing circumstances and project parameters
- Teamwork and leadership
- Problem-solving and solutions in designing, building and installing projects
- Industrial Safety
- Professional Communication
- Time management for manufacturing deadlines
- Strong mechanical aptitude

TECHNICAL SKILLS
- Communication Protocols: EtherNet/IP, CAN, MQTT, Modbus, TCP/IP
- Digital Serial communication: RS-232/485
- Wireless communication: 900 MHz, Cellular/Satellite
- VSAT: Instillation Certificate
- PLC: Allen-Bradely RSLogix and ifm
- Operating Systems: Windows, Linux, FreeRTOS
- AutoCAD: Blueprints, schematics and wiring diagrams (interpretation and design)
- Proficient with electronic instruments and test equipment
- FPGA: Vivado, VHDL

COURSES
- PROGRAMMING II FOR ENGINEERS (C++/MATLAB): Object-oriented programming, indirection using pointers, error handling, data structures, and floating-point and complex arithmetic with an emphasis on scientific and engineering computations.
- MICRO DESIGN & APPLICATION: Utilizing an ARM Cortex M4 microcontroller, topics include Timers/Counter, Pulse Width Modulation, ADC, DAC, Direct Memory Access, I2C, Exceptions and Interrupts, DSP, Embedded Operating Systems.
- EMBEDDED SYSTEMS: Quality and performance metrics, Software optimization techniques, Fixed-point Arithmetic, Hardware, Software, Firmware.
- SYSTEM-ON-CHIP ENGINEERING FOR SIGNAL PROCESSING: SOC design and testing, Energy consumption, SystemC Modeling Language for hardware-software design.

REFERENCES

Available upon request