Michael Burt, P.Eng., M.Eng.

Electrical Engineer

• EDUCATION

B. Eng. (Electrical), Memorial University of Newfoundland (3.94/4.00 GPA) Convocated 05/2017
M. Eng. (Electrical), University of Waterloo (90.11% average) Convocated 06/2023

• HIGHLIGHTS

- Over 8 years of experience in the engineering field, including automation programming in python, C#, Java, and C/C++ for industrial HMI, Manufacturing Execution Systems, and embedded systems

- Engineered a broad range of systems from large distributed systems, such as conveyors, to complex dynamic systems such as robotics with many axes of motion, and water/process control systems

- Taught Industrial Electricity (ELN8299) at Algonquin College in Ottawa with use of D2L

- 2+ years training engineers/technicians in a formalized capacity within an engineering firm

• EMPLOYMENT

Brock Solutions – Engineer/Technical Lead 09/2018 – Present

- Daily use of programming languages such as python, VBA and C# for automation and development tasks, such as spreadsheet/data automation for databases (such as Microsoft SQL)

- Managed teams consisting of software and controls engineers on simulation and controls projects

- Extensive programming in python to development applications within the Ignition HMI architecture

- Use of GitLab source control: forking master project branch into implementation branch, managing commits from several developers, and managing pull requests for feature updates

- Gained experience in the niche space of Information Technology (IT) and Operational Technology (OT). This includes IDC (Industrial Data Center) design and configuration, and server deployment

- Embedded systems programming in C and C++ to interface networking software with industrial PLCs

- Programming networking experience, including socket programming (TCP/UDP), CIP, Ethernet/IP, and use of Wireshark to troubleshoot network software issues in real time

Iridian Spectral Technologies – Industrial Automation EIT 11/2017 – 08/2018

- Engineered, implemented, and tested automation systems for thin film optics manufacture

- Maintained, upgraded, and provided ongoing support for existing control systems

- Programmed PLCs and HMIs using ladder logic and proprietary software (VBA, C#, Delphi)

- Developed machine vision algorithms (OpenCV) for robotic systems for purposes of quality control

Algonquin College – Part Time Engineering Instructor 03/2018 – 08/2018

- Taught ELN8299 Industrial Electricity to Mechanical Engineering Technology students
- Use of D2L to distribute course material, receive assignments, and provide grading feedback
- Designed course material on transformers, capacitors, inductors, three phase power, and more
- Conducted labs with a focus on safety, PPE, and student engagement
- Attended several professional development classes on professionalism, safety, and ethics

ADGA – Test Automation Specialist 06/2017 – 11/2017

Engineering Work Terms (5) – power, telecoms, and controls industries 2012-2016

• TRAINING AND SKILLS

Programming: Python, C#, VB.NET, C/C++, Delphi, Java, JavaScript, PHP

Frameworks: NodeJS, jQuery, three.js, Electron, Godot Engine, Panda3D, OpenTK

Human Machine Interfaces: Ignition by Inductive Automation, Siemens TIAPortal, AVEVA Wonderware, Rockwell Automation FactoryTalk ME/SE, Trihedral VTScada

Electrical Design: VFD design and implementation, electrical schematics, network drawings, panel installation, electrical wiring, network architecture designs, and field installation packages

Software: Rockwell suite of programs, EasyPower and SKM PowerTools, Microsoft VisualStudio, AutoCAD, OrCAD/PSpice, PICS Simulation, AutoMod Simulation, Microsoft Office Suite

Programmable Logic Controllers (PLCs): Ladder, structured text, FBDs, SFCs. Rockwell Automation ControlLogix, CompactLogix, GuardLogix, PLC5, SLC500, Omron Industrial PLCs, DirectLOGIC

• SCHOLARSHIPS AND AWARDS

General Motors Scholarship in Engineering (2015)

Gene H. Kruger Memorial Scholarship (2015)

Engineering Faculty Dean's List (2014-15)

CBCL Limited Engineering Scholarship (2014)

Chevron Engineering Scholarship (2013)

Business Faculty Dean's List (2012)

• EXTRACURRICULARS/HOBBIES

Volunteer at House of Friendship in Kitchener (June 2021 – present)

IEEE Member (2020 – Present)

PEO Ottawa chapter and Grand River chapter (June 2017 – present)

Green Drinks Ottawa (July 2017 – Aug 2018)

Volunteer at Green Energy Doors Open (Sept 2017)

Memorial Baja Team, Electrical Design (Jan – Apr 2015)