Brent Morris

University of Waterloo Electrical Engineering
2B Term - Class of 2027

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Portfolio BrentMorris.ca

Skill summary

Software Programs	Altium Designer, STM32Cube IDE, SolidWorks, Ansys Fluent, AutoCAD, Excel, ETAP, Project Libre (MS Project), Intel Quartus Prime
Programing Languages	C++, C, HTML, CSS, Java Script, VHDL, Microsoft VBA, MATLAB
Hardware Skills	PCB soldering, Oscilloscope, Multimeter

Design Teams

WatDig – Electrical & Controls Lead
MAY 2024 - PRESENT

- Designed sensor and actuator control PCBs
- Wrote firmware for STM32 controlled boards
- Designed 480V distribution and GFCI protection for motor controls
- Designed jet pump to transport mined slurry
- Preformed CFD analysis with Ansys Fluent
- Responsible for all electrical and control systems

Formula Electric
JANUARY 2024 - MAY 2024

- Designed active accumulator cell balancing board in Altium Designer based on LTC3300 chip
- Assembled CAN bus wire harness
- Assembled PCBs with 0.25mm pitch ICs

Work Experience

Algal Engineering Electrical Co-op Student
MAY 2024 - AUGUST 2024

- Field collection of electrical equipment specifications and modeling in ETAP
- Drafted redlines of single-line drawings
- Circuited lighting and receptacles
- Prepared fire alarm equipment layouts

Greenstone Gold Mine Electrical Engineer Intern
JANUARY 2023 - APRIL 2023 & SEPTEMBER 2023 - DECEMBER 2023

- Troubleshot, redesigned and coordinated modifications of water pumping station involving addition of instrumentation & control devices and PLC reprogramming
- Designed, procured and coordinated installation of 60+ IP cameras and refinery access control system including adding network infrastructure
- Designed, procured and coordinated installation of a 11 kW UPS power system
- Programmed parameters for all soft starters on site
- Programmed dynamic user form in Excel VBA for managing fiber pairs in long-distance fiber runs