

JESSIE BOUDREAU

P O W E R & E N E R G Y E N G I N E E R



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Uxbridge, ON L9P 1R1

S U M M A R Y

Experienced Engineering Team Manager with a demonstrated history of working in the transportation and power industries. Skilled in Electrical Engineering, Leadership, Battery Performance Analysis and Manufacturing Design. Fluent in English with professional working proficiency in French. Strong engineering professional with a Bachelor of Technology – B.Tech focused in Power & Energy Engineering from McMaster University.

R E S E A R C H P O S I T I O N S

ELECTRIC, HYBRID AND PLUG-IN HYBRID ELECTRIC VEHICLE RESEARCH – DR. ALI EMADI

McMaster Automotive Resource Centre, McMaster University

January 2020 – April 2020

Undergraduate research assistant working with the Energy Management Systems (EMS) team on the Fiat Chrysler sponsored Car of the Future project – lead by Phillip Kollmeyer, Ph.D.

- Developed an electrical safety training course, standard operating procedures and risk assessment documentation for students and researchers working on electrified transportation technology
- Reverse engineered, re-built, documented and prepared a custom battery cycler for field certification
- Performed lithium cell characterization tests on varying chemistries and form factors

E M P L O Y M E N T

ELECTRICAL ENGINEERING TECHNOLOGIST

Erwin Hymer Group North America, Cambridge, ON

July 2017 – August 2018

Principal electrical designer in multiple product development projects, including the Hymer Touring trailer and Roadtrek Transit Class B motorhome.

- Developed system schematics and wire harness drawings
- Coordinated with manufacturers to integrate subsystems into the primary coach control system
- Developed and executed test procedures for research and development projects such as the in-house designed lithium batteries

SOLAR TECHNICIAN CO-OP

Merlyn Power, Kitchener, ON

May 2016 – August 2016

Solar technician intern responsible for project acquisition, management and construction of solar photovoltaic and thermal systems

- Designed, installed and commissioned residential and commercial solar systems
- Performed liaison work between contractors, consultants, suppliers and project stakeholders
- Provided troubleshooting and technical support to ongoing projects

PROJECT ENGINEERING CO-OP

Roadtrek Motorhomes, Kitchener, ON

April 2015 – April 2016

Project engineering intern working in the Research & Development department on vehicle energy storage and power distribution systems

- Assembled and performed cycle and thermal testing on prototype lithium battery storage units
- Designed control circuitry and cable routing using PTC Creo Schematic and Parametric
- Performed onsite troubleshooting and maintenance for clients and retailers

EDUCATION

BACHELOR OF TECHNOLOGY – POWER & ENERGY ENGINEERING

McMaster University, Hamilton, ON

Completed: April 2020

ADVANCED DIPLOMA – ENERGY SYSTEMS ENGINEERING TECHNOLOGY

Conestoga College, Kitchener, ON

Completed: April 2017

- Graduation with Distinction

LEADERSHIP

MAC FORMULA ELECTRIC – FSAE TEAM

Team Captain, Electrical Team Lead, Packaging & Routing Lead, Electronics Team Member

September 2017 – Present

Chief engineer and project manager responsible for the MAC Formula SAE Electric racing team. Lead development of the in-house designed accumulator and all subsequent systems necessary for delivering and controlling power to the four in-hub motors.

- Lead in development of the high voltage battery, PCB design with Altium, vehicle power simulations and battery state of charge
- Developed wiring assembly and schematic drawings and aided with harness manufacturing
- Procured cash and product sponsorships from industry leaders and University departments

SKILLS

SOFTWARE & LANGUAGES

- | | |
|--|---------------------------------------|
| • SolidWorks 3D CAD | • ReactJS, NodeJS, HTML, CSS, SCSS |
| • SolidWorks Electrical | • Python 3.6 & 2.7 |
| • Altium Designer | • MATLAB |
| • Power System Simulator for Engineering (PSS/E) | • PTC Creo Parametric |
| • Arduino | • Visual Basic for Applications (VBA) |

AWARDS & CERTIFICATES

SAFE HANDLING OF HIGH VOLTAGE BATTERY SYSTEMS

SAE International

Issued: November 2018

MASTERCRAFT AWARD – BEST OVERALL CAPSTONE PROJECT

Conestoga College

Issued: May 2017

PUBLISHED APPEARANCES

Tech@Work Showcases Capstone Projects

Conestoga College Interview & Article

Published: May 2017

blogs1.conestogac.on.ca/news/2017/05/techwork_showcases_capstone_pr.php