Kevin Wang

(416)-858-6966 | kwang364@uwo.ca | www.linkedin.com/in/kevin-wang-uwo\

EDUCATION

BESc, Mechatronic Systems Engineering | Western University   **June 2021**
3.7 GPA | Dean's Honor List | 2016 – 2021

EXPERIENCE

Design Engineering Technologist | FPH Group   May 2021 – Current

- Working towards designing and manufacturing the battery and control systems for an 80V electric mining vehicle (EMV); developed the battery architecture to increase discharge capacity by 40%
- Utilized a Simulink API to program the vehicle control unit (VCU); created algorithms for charge control, power management and thermal management while adhering to ISO 26262
- Wrote a Python script that converted CAN bus trace files to Microsoft Excel which helped to promote tuning and debugging efficiency to improve vehicle dynamics
- Designed and manufactured the wiring harness for the EMV to IP67 standards; SolidWorks Electrical was used to expedite the design process by 25%
- Managed the EMV project's activities, including scheduling, design, manufacturing milestones, and coordination with the mechanical subsystem

Engineering Intern | Ameresco Canada Inc.   May 2019 – August 2020

- Assisted the Thames Valley District School Board to redesign the Building Automation System (BAS) control systems by developing the sequence of operations and points lists to promote energy savings by 17%
- Completed an electrical heat pump replacement at John Paul II Catholic Secondary School by analyzing the electrical load, voltage, ampere, and phase of each unit, per the Ontario Electrical Safety Code
- Collaborated with clients and contractors to commission BAS sites to ensure completion of any controls and mechanical upgrades based on the project specification
- Hosted weekly update call and prepared meeting minutes with clients and contractors to meet project completion deadlines and to ensure project scopes are met

EXTRACURRICULAR ACTIVITIES

Accumulator Subsystem Lead | Western Formula Racing (FSAE Electric)   May 2019 – May 2021

- Created an in-house battery management system (BMS), which incorporates control algorithms to regulate the temperature and cell voltages, while also utilizing artificial intelligence to estimate and predict the health of the accumulator.
- Designed a state-of-charge algorithm using Python's matplotlib and Arduino to calculate the open-circuit voltage and count the available Coulombs, the results were then tuned using a Kalman Filter
- Utilized EAGLE to implement a low-pass active filter to the Brake System Plausibility Device (BSPD) to filter out unwanted noise and EMI which prevented the BSPD faulting incorrectly; output signal was verified via LTspice to confirm PCB design
- Led accumulator testing by extracting data from MoTeC ECU and Orion BMS, and generating and interpreting CAN messages to debug critical errors and to increase vehicle top speed by 20%
- Generated a Failure Mode & Effects Analysis (FMEA) of the electrical subsystem to identify possible sources of failures and the steps taken to minimize them, which helped simplify debugging the electrical system to reduce failure start-up by 50%

TECHNICAL SKILLS & ADDITIONAL INFORMATION

Language: C/C++, Python, MATLAB
Programs: Microsoft Excel & Powerpoint, Visio, SolidWorks (CSWA), EAGLE, LTspice
Communication Protocols: RS232, CAN**,** I2C, isoSPI
Instrumentation: Multimeter, Oscilloscope, Function generator
Other Activities: Music (saxophone), Ivey Fintech Club Researcher, Western Investment Club Researcher