

Jihoon Kim

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Summary

Vehicle Control Engineer with 5+ years in electric vehicle development. Expert on MATLAB/Simulink and model-based design. Good knowledge of embedded control system, sensors, actuators, microcontroller operation. Team player with excellent communication skills and strong work ethic. Rich hands-on experience in system integration, testing and data analysis. Comprehensive understanding in electric vehicle both at component and system levels. U.S. Green Card Holder

Work Experience

Optimal Inc Plymouth, MI
Vehicle Control Engineer October 2017 - Present

- Develop vehicle control algorithm for electric powertrain propulsion system using MATLAB/Simulink
- Identify hazards at system and subsystem levels and conduct DFMEA following ISO26262
- Set up HIL bench with dynamometer to system integrate and verify selected components
- Develop algorithm/solution to adapt carry over OEM parts to new propulsion system on controller peripherals
- Develop and calibrate driving control algorithm for optimized pedal map and regenerative braking
- Program BMS to interface with vehicle control unit for safe and efficient battery management
- Conduct CAN load analysis to optimize signal sampling rate and channel distribution
- Plan and conduct Altoona testing for class 4 truck at proving ground and on chassis dyno
- Analyze and benchmark major OEM EVs for thermal management and HV power distribution
- Run battery range simulation for electric vehicle on various driving cycles (OC, Manhattan, UDDS, HD UDDS)
- Participate in Bollinger Motors powertrain development consulting project

LG Electronics Troy, MI
Development Engineer (E-Powertrain Engineering) September 2015 - October 2017

- Participate in GM BEV2 Bolt EV project (program management in on-board charger module)
- Support field test to verify the performance of specific features
- Conduct initial root cause analysis of field issues to better support customer and head quarter
- Participate in hardware and software design review

Education

University of Michigan – Dearborn Dearborn, MI
M.S. Mechanical Engineering | GPA: 3.46 / 4.0 December 2019
Course Work: Linear Systems Control, Vehicle Dynamics, Vehicle Electronics, Automotive Powertrain System, Vehicle Thermal Management

Northeastern University Boston, MA
B.S. Mechanical Engineering | GPA: 3.36 / 4.0 May 2015
Course Work: Robot Mechanics and Control, Finite Element Method, Dynamics and Mechanical Vibration

Skills

Programming
MATLAB/Simulink, C++, Python, Arduino

Application
PCAN Explorer, V-Spy, Kvaser CanKing, EcoCal, Vector CANoe, ANSYS, NX, SolidWorks, Catia

