
Company Overview:

Weichai Power is a multi-field and multi-industry international group which owns multiple business segments of powertrain, commercial vehicles, agricultural equipment, intelligent logistics, construction machinery, marine transportation equipment, and other business segments. Headquartered in Weifang, China, Weichai Power has set up three innovation centers in US, Germany, and Japan, respectively. We are actively looking for specialists and engineers in the following positions.

1, Electronic control system architecture expert

JOB RESPONSIBILITIES

- Development and design of electronic system controls from SW/HW structure level to the powertrain applications
- Familiar with the electronic diesel engine control system design practice and development process
- Ensure the engineering processes, methods and best practices are followed in developing existing and future technologies
- Manage and supervise junior engineers for control system development through advanced project to meet the 2027 diesel engine and AT system emissions requirements
- Support the electronic control architecture design with AUTOSAR software platforms
- Lead in working with international team, up to 20% international travel required

BASIC QUALIFICATIONS

- Master's degree in Mechanical, Materials or Electrical Engineering or related degrees
- Minimum 10 years of experience in electronic engine control, AT system control development, research and/or product development experiences
- Understand modular structures of the engine control system software. Be able to design and analyze the SW functionality in the different levels of the system configurations and development phases
- Ability to review and approve technical documentation including DFMEA's, DVP&R's to ensure proper flow for function, failure mode, and design controls that lead directly to the DVP&R's
- Familiar with the system design tool and process, such as MBD, AUTOSAR. Be able to use the tools to build/analyze the S/W structure, interface and data flow
- Fundamental understanding of modeling and simulation using Matlab/Simulink tool to perform control system design and analysis
- Interpersonal skills to be able to work in cross functional team

PREFERRED QUALIFICATIONS

- PhD's degree in Mechanical or Materials or Electrical Engineering
- Strong background in S/W structure, compiling and process of coding structure

- Design for Six Sigma Green Belt or Black Belt certification

2, EV control expert (BMS, motor, diagnostic)

JOB RESPONSIBILITIES:

- Lead control system design, analysis and implement to achieve various control system performance objectives
- A team leader for BMS system development. Lead/support milestone reviews of the system definition, requirements and capability
- Responsible for next generation electric powertrain system for truck and commercial vehicles application. Technical expert to reduce component losses and optimize design to improve the efficiency and reduce the cost for the systems
- Perform EV system calibration and diagnostics, conduct the EV system failure mode analysis
- Lead in working with international team, up to 20% international travel required

BASIC QUALIFICATIONS

- Master's degree in Mechanical, Material or Electrical Engineering or related degrees
- Minimum 10 years of experience in BMS and motor control for electric propulsion system
- Excellent communication and problem solving skills
- Experiences in electrified vehicle system development. Be able to perform system analysis using Matlab/Simulink and GT simulation tools
- Able to analyze the energy storage system behavior (SOC, SOP, etc.) motion control systems performance, the environmental impact on the system and thermal challenge.

PREFERRED QUALIFICATIONS

- PhD's degree Mechanical or Materials or Electrical Engineering
- Strong analytical skill in the BMS system, modeling of electric motor systems
- Familiar with control of nonlinear systems

3, E-chassis and e-drive expert

JOB RESPONSIBILITIES

- Design of battery pack for commercial vehicle electrification.
- Define mechanical and electrical specs/requirements for the e-chassis.
- Lead a program team to deliver optimized results for e-drive system. Conduct testing activities, interface with supplier and management teams.
- Create the chassis system CAE model, simulation and analysis, optimize e-chassis system efficiency
- Perform system trouble shooting, diagnosis, improve the process robustness
- Lead in working with international team, up to 20% international travel required

BASIC QUALIFICATIONS

- Master's degree in Mechanical, Material, Electrical Engineering or Industrial Engineering fields
- Minimum 10 years of experience in vehicle propulsion systems and vehicle system integration
- Knowledge in battery physics, energy storage, vehicle dynamics
- Ability to perform detailed engineering analysis on structural components and systems
- Experience in design of battery pack for commercial vehicle application
- Experience in modeling of battery system, simulation and performance analysis
- Interpersonal skill to work with other team members

PREFERRED QUALIFICATIONS

- PhD's degree Mechanical or Materials or Electrical Engineering
- Strong analytical skill in the BMS system, propulsion control systems
- Knowledge in thermal analysis for the battery pack system
- Knowledge in vehicle dynamics, vehicle modeling, simulation and integration
- Skill in vehicle system diagnosis, DFMEA analysis

4, AI/big data/autonomous drive expert

JOB RESPONSIBILITIES

- Perform data generation/collection, deep machine learning, feature abstraction; Establish algorithms based on Neural Network, Vector Machines or Decision Tree/Forests.
- Lead verification & validation efforts for autonomous vehicles. Create and execute test plans of autonomy modules for perception, prediction, motion planning, localization and control.
- Create and maintain system tests as part of routine system assessments and continuous integration.
- Enable product development of production ready autonomy software for commercial vehicles or off road equipment.
- Organize and execute field test of autonomy software on-vehicle in various environments
- Lead in working with international team, up to 20% international travel required

BASIC QUALIFICATIONS

- Master's degree in Mechanical, Electrical Engineering or Computer Science or mathematics fields
- Data processing skill, logic mindset and interest in understanding the functionality of autonomy software
- Experience creating and executing test plans for software and hardware systems
- Ability to build NN model based on the data collection and conduct the model simulation against the testing data
- Knowledge of sensor fusion, edge computing in autonomous vehicle application
- Interpersonal skill to communicate with other team members

PREFERRED QUALIFICATIONS

- PhD's degree in Mechanical, Electrical, Computer Engineering or Computer Science or mathematics
- Programming skills using Matlab script, Python, C++ or other software program languages
- Knowledgeable of ANN, CNN, RNN or other deep machine learning tools to build up system model from big data

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- Familiar with the embedded software structure and hardware interface
 - Knowledge of stochastic process and system optimization algorithms

5, Vehicle architecture/integration specialist

Responsible for BEV commercial vehicle architecture/integration

- Allocate system-level requirements to sub-system and component levels
- Vehicle electrification and integration
- Conduct reviews with product teams to ensure requirements to be met throughout product development cycle
- Perform package investigations, prepare package proposals, and generate solutions
- Evaluate geometrical changes and change requests
- Support alignment of complete vehicle package requirement with functional departments
- Analyze and propose common solutions that support routing and packaging requirements
- Prepare and build physical prototypes for cross-functional teams to review
- Lead in working with international team, up to 20% international travel required

Qualifications

- Master's degree in engineering (Industrial, Mechanical, or similar) or equivalent.
- At least 10 years of product development experience, preferably in commercial vehicle development.
- Familiarity with major vehicle systems, such as electrical and thermal systems
- Strong experience with PTC Creo Parametric & Creo view.
- The ability to work in cross-functional teams to communicate with stakeholders.
- Product Data management experience.
- Excellent written and verbal communication skills.

- Ability to analyze vehicle dynamics to determine how various loads placed on and repositioned on the vehicle affect the center of gravity, suspension, drivetrain and other systems
- Vehicle system integration experience in battery electric vehicle

6, Natural gas engine control expert

Responsible for gas engine control system development

- Lead the design, development of new controls projects/programs for natural gas engine
- Develop innovative solutions to improve gas engine control and software development efficiency
- Develop engine controls software using MATLAB/Simulink or Embedded C based on provided requirements
- Develop engine controls software for various subsystems including fuel systems, air systems, emission/combustion, aftertreatment
- Develop the control algorithms to prevent abnormal combustion like knocking and misfiring to improve fuel economy and engine performance
- Lead analysis of system behavior and performance DFMEA
- Lead in working with international team, up to 20% international travel required

Qualifications

- Master's degree in Engineering/Technology, Ph.D preferred
- At least 10 years of experience with embedded model-based control strategy design
- Experience developing control-oriented models and simulation of control algorithms
- Experience and familiarity with hardware and software aspects of embedded control
- Demonstrated ability to recognize opportunities for new and innovative solutions
- Electronic Control System engineering and design experience
- Proficient using MATLAB/Simulink Tools

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- Analytic skill to use simulation tools for system trouble shooting and diagnostics
 - Experience with automotive standards and practices
 - Gas engine controls calibration, design experience

7, Natural gas engine fuel injection system key components development specialist

Responsible for advanced gas fuel injection system/components development

- Lead the development and writing of proposals
- Component specification creation
- Deploy extensive experience in modeling, simulation, and experimentation to develop and validate novel fuel injection system and key components
- Lead multidisciplinary teams of product engineers, research team members, and external partners to invent and mature the next generation of fuel injection technology
- Communicate with suppliers to acquire proper fuel system parts to meet development goals
- Lead in working with international team, up to 20% international travel required

Qualifications

- Master degree in Mechanical Engineering or similar degree
- A minimum of 10 years of experience in a gas engine fuel system development or design engineering role
- Proven mechanical aptitude and understanding of fundamental mechanical engineering concepts
- Experience conceptualizing and designing complex mechanical systems and assemblies interlinked by mechanical and fluid systems
- Knowledge of 3D modeling and creation of 2D drawings using a commercial CAD software package (such as, experience with PTC Creo)
- Familiar and skillful in analysis tool like Amesim/GT-suite
- Knowledge of properties of materials and manufacturing techniques

- Knowledge of fluid dynamics and heat transfer
- Experience with product development processes such as Requirement Documentation, Verification and Validation Plans and Reports, and DFMEA's
- Ability to justify design decisions with calculations and written documentation

8, OBD/OBM control specialist

Responsible for OBD/OBM development

- Generate OBD/OBM requirements for commercial vehicles based on target market regulation
- Validate SW implementations of these requirements in HiL and vehicle environment and provide feedback to SW group
- Conduct a complete evaluation of the OBD/OBM-system performance according to the monitoring requirements
- Understand and interpret OBD/OBM-regulations for different markets (California, Europe, Rest of World)
- Generate OBD/OBM-SW-requirements and provide to SW team
- Discuss potential implementation strategies and best practices with SW teams
- Propose software and/or calibration changes to ensure OBD/OBM compliance
- Identify weaknesses or deficiencies in existing and future OBD/OBM relevant (sub-) systems to prevent unlawful aftermarket and/or customer modifications
- Develop algorithms for OBD/OBM
- Lead to reduce OBD/OBM related faults
- Lead in working with international team, up to 20% international travel required

Qualifications

- Master Degree in Electrical, Automotive, or Mechanical Engineering
- At least 10 Years of Overall Work Experience
- Well organized, highly motivated, and able to work in a multicultural environment

- Strong problem solving skills and excellent presentation and communication skills
- Commercial vehicle Powertrain Control Systems engineer, with a depth of experience in On Board Diagnostic (OBD/OBM) development, in particular proven experience in compliance to the California Air Resources Board (CARB)
- Hands-on experience of on-board systems development tools such as MATLAB/SIMULINK, C-Programming
- Good knowledge of CAN, LIN and FlexRay communications

ALL ABOVE JOB LOCATION: CHICAGO, USA

How to Apply:

- Email a cover letter and resume to HR@weichaiamerica.com.
- You may choose to learn more about our company at www.weichaiamerica.com and/or www.weichai.com

Compensation & Benefits:

- Compensation is competitive and commensurate with experience
- Paid vacation, healthcare benefits, dental and vision insurance, 401k

WEICHAI IS PROUD TO BE AN EQUAL OPPORTUNITY EMPLOYER. WE EVALUATE QUALIFIED APPLICANTS AND DO NOT DISCRIMINATE AGAINST PERSONS ON THE BASIS OF RACE, COLOR, AGE, RELIGION, SEX, NATIONAL ORIGIN, DISABILITY, VETERAN STATUS AND OTHER PROTECTED CHARACTERISTICS.