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Senior Electrical Engineer (System Design ECU, Low Voltage) 低压 ECU 系统设计高级电气工程师

Working place: Tianjin

Recruiting number:1

Role overview

As Senior Electrical Engineer for LV ECU System Design, you will own end-to-end technical responsibility for the architecture, development and validation of low-voltage electronic control units for BEV and PHEV platforms. You will lead requirement decomposition, hardware architecture design, cross-component integration and compliance verification, collaborating with cross-functional teams and global suppliers to deliver stable, reliable, high-performance LV control solutions. As the technical owner across the full project lifecycle from concept to SOP, you will drive technical issue resolution, optimize system design and ensure full alignment with OEM specifications and automotive industry standards.

Key Responsibilities

- Lead system design and architecture planning of low-voltage ECUs for vehicle body and electrical systems, including hardware topology definition, interface specification and functional module allocation.
- Capture, analyze and decompose OEM and vehicle-level system requirements into detailed ECU technical specifications, and establish full traceability across requirements, design, validation plans and test results.
- Oversee system-level integration of LV ECUs with the vehicle low-voltage grid, coordinating with body control modules, infotainment systems, ADAS controllers and other core LV components.
- Define and execute Design Verification Plans (DVPs) for LV ECU systems, covering electrical performance, steady-state and transient state verification, fault scenario validation and system reliability assessment.
- Lead root cause analysis for complex LV ECU technical issues, and manage implementation of corrective and optimization measures to ensure on-schedule issue closure.
- Coordinate technical communication with global component suppliers and Tier 1 ECU vendors to ensure on-time delivery of development milestones and design deliverables.
- Ensure all system designs comply with ISO 26262 functional safety standards, automotive EMC regulations and applicable industry standards.
- Provide technical guidance and mentorship to junior engineers to support team capability building in LV ECU design methodologies.

Qualifications & Requirements

Education

- Bachelor's or Master's degree in Electrical Engineering, Automotive Engineering, Mechatronics or a related field.
- Excellent fresh graduates with English as a working language are also welcome.

Professional Experience

- 4+ years of engineering experience in automotive low-voltage ECU system design or hardware development; OEM or Tier 1 supplier background preferred.
- Proven track record in LV ECU architecture design, system integration and validation for BEV/PHEV platforms.
- Solid experience across the full vehicle development lifecycle from concept phase to series production launch.

Technical & Tool Proficiency

- In-depth knowledge of automotive low-voltage system architecture and ECU hardware design principles.
- Strong understanding of core LV components (body control modules, infotainment, ADAS controllers) and their system-level interaction logic.
- Familiar with automotive communication protocols including CAN, LIN and CAN FD; AUTOSAR architecture experience preferred.
- Proficiency in system design and requirement management tools; hands-on experience with DVP development and traceability management.
- Good knowledge of ISO 26262 functional safety standards and automotive EMC requirements.
- Experience with diagnostic tools such as CANoe, CANape preferred.

Language Proficiency

- Native proficiency in Chinese.
- Fluent English (speaking, writing and reading) for cross-team and cross-border technical communication.
- German language skills a strong plus.

Core Competencies

- Strong analytical and systems thinking to address complex LV system design challenges.
- Structured, detail-oriented approach with rigorous standards for design quality and technical accuracy.
- Excellent communication and coordination skills to collaborate effectively with internal teams and global suppliers.
- Proactive problem-solving mindset, able to independently identify technical bottlenecks and drive solution implementation.
- Highly motivated, fast learner with an open mindset, able to manage multiple priorities in a fast-paced environment.

We are looking forward to your application! Please send us your complete application file in English mentioning your earliest possible entry date by e-mail to: careers@cenergy.asia

工作地点: 天津

招聘人数: 1 人

岗位概述

作为低压 ECU 系统设计高级电气工程师,你将全面负责纯电动及插电混动汽车低压电子控制单元的架构定义、开发设计与系统验证的端到端技术工作。你将牵头完成系统级需求拆解、硬件架构设计、跨部件集成与合规验证,与跨职能工程团队及全球供应商紧密协作,交付稳定、可靠、高性能的低压控制解决方案。作为从概念阶段到量产(SOP)全项目周期的技术负责人,你将主导技术问题攻关、持续优化系统设计,确保方案完全符合主机厂技术规范与汽车行业标准。

主要工作职责

- 主导整车车身电气系统低压 ECU 的系统设计与架构规划,包括硬件拓扑定义、接口规范制定与功能模块分配。
- 收集、分析并拆解来自主机厂与整车工程团队的系统级需求,转化为详细的 ECU 技术规范,建立需求、设计、验证计划与测试结果之间的完整可追溯性。
- 统筹低压 ECU 与整车低压电网的系统级集成,协调车身控制模块、影音娱乐系统、ADAS 控制器等核心低压部件的协同工作。
- 制定并执行低压 ECU 系统的设计验证计划(DVP),覆盖电气性能测试、稳态与瞬态工况验证、故障场景验证及系统可靠性评估。
- 牵头低压 ECU 系统复杂技术问题的根本原因分析,管理纠正与优化措施的落地,推动问题按时闭环。
- 管理并协调全球零部件供应商与 ECU 一级供应商的技术对接,保障开发节点与设计交付物的按时输出。
- 确保所有系统设计符合 ISO 26262 功能安全标准、汽车 EMC 法规及相关行业标准要求。
- 为初级工程师提供技术指导与带教,助力团队在低压 ECU 设计方法上的能力建设。

任职资格与要求

教育背景

- 电气工程、汽车工程、机电一体化或相关专业本科及以上学历。
- 能将英语作为工作语言的优秀应届毕业生也可投递。

专业经验

- 4 年以上汽车低压 ECU 系统设计或硬件开发领域工程经验,有主机厂或一级供应商背景优先。
- 具备纯电动或插电混动车型低压 ECU 架构设计、系统集成与验证的成熟项目经验。
- 拥有覆盖从概念阶段到量产启动全整车开发周期的项目经历。

专业技能与工具能力

- 深入掌握汽车低压系统架构与 ECU 硬件设计原理。
- 熟悉车身控制模块、影音娱乐、ADAS 控制器等核心低压部件及其系统级交互逻辑。
- 熟悉 CAN、LIN、CAN FD 等汽车通信协议;有 AUTOSAR 架构经验优先。
- 熟练使用系统设计工具与需求管理工具,具备 DVP 开发与可追溯性管理的实操经验。
- 熟悉 ISO 26262 功能安全标准与汽车 EMC 要求。
- 有 CANoe、CANape 等诊断标定工具使用经验优先。

语言能力

- 中文母语水平，听说读写流利。
- 英语流利，可胜任跨团队、跨国界的技术沟通与文档工作。
- 具备德语能力者优先。

核心胜任力

- 优秀的分析与系统思维能力，能够应对复杂的低压系统设计挑战。
- 工作方式结构化，注重细节，对设计质量与技术准确性有严格标准。
- 出色的沟通协调能力，可高效对接内部团队与全球供应商。
- 积极主动的问题解决思维，能独立识别技术瓶颈并推动方案落地。
- 自驱力强，学习速度快，心态开放，能在快节奏环境中管理多项优先级任务

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