Sr. Embedded Firmware Engineer, Power Electronics

Job Description

As the Embedded Firmware Engineer, you will develop, verify, and validate embedded firmware for power electronics, battery charge, and vehicle interface for onboard chargers. In this role, you will work closely with the Engineering teams to architect, implement, test and deploy safety critical software for existing systems and future products.

Your knowledge of automotive standards will be beneficial in devising and analyzing tests for automotive design and certification.

Your Duties

1. Develop real-time embedded software that implements control and safety management of the onboard charger.
2. Develop automated tests to ensure high-quality software releases and accurate functionality.
3. Be involved in the full life-cycle of firmware development from concept through integration, and test.
4. Develop and optimize firmware for bi-directional power electronics.

Prerequisites

1. Bachelor or Masters of Science in Electrical Engineering, Computer Engineering, Computer Science or equivalent experience with evidence of exceptional ability.
2. 3+ years of industry experience in embedded software.
3. Proficient in C programming language. MISRA C experience preferred.
4. Knowledge of power electronics, converters, and inverters in high voltage, high power applications.
5. Experience developing bootloaders.
6. Experience with automotive standards. Proficient in automotive CAN standards and tools.
7. Proficient with writing drivers for peripheral devices such ADC, PWM, DAC, EEPROM with expertise in using hardware protocols such as I^2C, SPI, RS232, and CAN.
8. Experience with debugging hardware using schematics.
9. Proficient with MATLAB and Simulink with experience in model-based programming.
10. Strong knowledge of automotive standards.
11. Knowledge of version control (Git) and software release process.
12. Familiarity with Design Failure Mode and Effects Analysis (DFMEA).