NAVITAS
Vehicle Systems Ltd.

Senior Hardware/Electrical Engineer – Hardware Design
Navitas Vehicle Systems | Waterloo, Ontario

Overview
Navitas Vehicle Systems is a leader in electric vehicle powertrain innovation, designing and manufacturing high-performance controllers, chargers, and electrification platforms for the global mobility and industrial markets. We are expanding our engineering team and seeking a Senior Hardware/Electrical Engineer specializing in hardware design to drive the next generation of our electric drivetrain and power electronics systems.

Position Summary
The Senior Hardware/Electrical Engineer will lead the design, development, and validation of advanced hardware architectures used in electric vehicle controllers, high-voltage power electronics, and embedded systems. This role is responsible for full lifecycle hardware development—from requirements definition and schematic design through PCB layout oversight, prototyping, testing, reliability validation, and production launch. The ideal candidate brings deep technical expertise, strong analytical skills, and the ability to mentor and guide junior engineers.

Key Responsibilities
• Lead hardware design for EV controllers, DC-DC converters, battery management interfaces, and related power electronics assemblies.
• Develop electrical architectures, schematics, PCB designs, and component selection aligned with performance, safety, and manufacturability requirements.
• Own hardware requirements, system modeling, design documentation, DFMEA, and compliance deliverables.
• Collaborate with firmware, mechanical design, test engineering, and manufacturing teams to ensure robust end-to-end system integration.
• Conduct prototyping, bench validation, electrical characterization, thermal analysis, EMC/EMI mitigation, and design optimization.
• Drive root-cause analysis and implement corrective actions for field issues, reliability concerns, or design improvements.
• Support production readiness through DVT, PVT, EOL testing parameters, and supplier engagement.
• Mentor hardware engineers and contribute to technical design reviews, best practices, and standards development.
• Stay current with industry innovations in power electronics, EV systems, semiconductors, PCB technologies, and safety standards.

Qualifications
• Bachelor’s or Master’s degree in Electrical Engineering, Mechatronics Engineering, or related discipline.
• 7–10+ years of experience in hardware design for embedded systems or power electronics (EV/automotive experience preferred).

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• Proven expertise with high-voltage and high-current designs, gate drivers, switching power supplies, and motor control electronics.
• Strong proficiency in schematic capture, PCB layout best practices, and tools such as Altium, OrCAD, or equivalent.
• Experience with EMC/EMI design principles, regulatory compliance, and automotive or industrial safety standards (ISO 26262, UL, CSA, IEC preferred).
• Strong analytical and debugging skills using oscilloscopes, logic analyzers, power analyzers, and other lab equipment.
• Demonstrated ability to lead design projects, manage technical risk, and deliver high-quality hardware into production.
• Excellent communication skills and ability to work cross-functionally in a fast-paced engineering environment.