SATYAM KHANNA

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SUMMARY

Embedded Hardware Engineer specializing in Industrial IoT, multilayer PCB design, and hardware validation. Experienced in implementing microcontrollers including ATMega, PIC, STM32, Nordic, and ESP32, EMI/ESD-compliant layouts, and industrial automation devices. Proven record of reducing design cycles, cutting BOM costs, and delivering multiple IoT devices into production. Skilled in troubleshooting, cross-functional collaboration, and creating scalable embedded solutions with a strong can-do attitude.

CORE COMPETENCIES

PCB Design, Embedded Systems, Industrial IoT, Industrial Automation, Data Visibility, EMI/ESD, Signal Integrity, DFM/DFT, Power Electronics, IoT Sensors, 3D Enclosure Design

EXPERIENCE

Senior IoT Engineer
Jun 2024 – Present

Vylt Technologies — *Gurugram*

- Designed modular multi-layer PCBs for industrial IoT devices in automation and supply chain tracking, reducing redesign iterations by 25% and accelerating time-to-market.
- Engineered remote MHE monitoring devices with IoT sensors that improved operator productivity tracking and provided real-time cloud visibility, boosting efficiency by over 80%.
- Delivered complete product stacks from architecture to schematic, PCB layout, enclosure CAD, and field validation, shortening prototype-to-deployment cycles by 35%.
- Adopted Git-based version control and Agile Scrum methods to streamline design handoffs and cross-team collaboration.

Hardware Design Engineer
Nov 2023 – Jun 2024

VVDN Technologies — *Gurugram*

- Contributed to schematic design, PCB layout review, and troubleshooting of electronic circuits and embedded hardware.
- Executed board bringup and diagnostics on 5+ prototypes, achieving functional validation within 2 weeks and enabling pilot production on schedule.
- Prepared documentation and assembled 4+ prototype boards, ensuring smooth transfer from prototyping to production.

Embedded Engineer
Dec 2022 – Oct 2023

VRSIIS — *Noida*

- Redesigned a 2-layer PCB into a 4-layer EMI/ESD-compliant board, improving signal integrity and reducing noise by 30%, enhancing industrial monitoring reliability.
- Optimized component selection and placement to cut BOM cost by 15% while maintaining regulatory compliance.
- Performed board bringup and validation, achieving first-pass success across 3 hardware designs.

Embedded Engineer Intern
Feb 2022 – Dec 2022

Otomator Technologies — *Noida*

- Created stackable IoT PCB modules with modular buses, deployed in 4 commercial projects, increasing scalability and reducing integration effort by 20%.
- Produced design documentation and architecture diagrams that shortened design review cycles by 25%.

PROJECTS

Node-Broker IoT Device | Modular PCB, IoT Sensors, Data Visibility   2025
- Architected a modular 4-layer PCB integrating 3+ IoT sensor channels for agricultural monitoring, enabling scalable environmental data collection.
- Deployed 100+ production units with remote firmware update support, UART debugging, and cloud connectivity, improving reliability and reducing on-site maintenance by 40%.

Industrial IO Board | LAN-based Control Board for Automation   2023
- Designed and delivered a LAN-based control board as a cost-effective industrial automation solution, reducing deployment cost by 20%.
- Integrated relay drivers, surge protection, and modular expansion slots, ensuring compliance with industrial standards.

CM4 Network Aggregator | High-speed PCB, Carrier Board   2021
- Built a CM4 carrier board with multi-Ethernet and USB interfaces, supporting high-speed data streaming for edge gateway applications.
- Optimized high-speed signal routing and impedance control, improving data throughput stability by 30%.

SKILLS

Core Hardware & Embedded: PCB Design, Altium Designer, Multi-layer PCB, High-speed Design, EMI/ESD, DFM/DFT, Signal Integrity, STM32, ESP32, Nordic MCUs, ATMega, PIC, Schematic Capture, Component Selection, Board Bringup, Debugging, Power Electronics, IoT Sensors
Supporting Tools & Methods: Basic Firmware Bringup Support, AWS (IoT Core), Version Control (Git), Agile/Scrum, Design Documentation, BOM Preparation, Gerber Generation
Testing & Validation: Oscilloscope, Logic Analyzer, Multimeter, Compliance Testing, Debugging Hardware-Firmware Interfaces
RF/Connectivity: LTE/4G, BLE, Wi-Fi, Ethernet Modules
CAD/Prototyping: 3D Enclosure Design, Modular Stack Designs, Product Safety Compliance
Soft Skills: Communication, Presentation, Analytical Thinking, Problem-solving, Design Thinking, Teamwork, Multitasking

EDUCATION

KIET Group of Institutions   2019 – 2023
B.Tech. in Electronics and Communication Engineering   *Ghaziabad, Uttar Pradesh*