Sachin Verma

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Objective

Final-year Electronics and Instrumentation Engineering student with hands-on experience in embedded systems, IoT, and software integration. Skilled in both hardware interfacing and full-stack development, aiming to build scalable, intelligent, and connected systems that bridge hardware and software domains.

Education

B.M.S. College of Engineering — Bengaluru,Karnataka
Bachelor of Engineering in Electronics & Instrumentation Engineering — *Nov. 2022 – Aug 2026*

Bright Career School — Purnea, Bihar
Class 12th — *2021*

Technical Skills

Languages: C, C++, JavaScript
Web Development: Backend (Node.js, Express.js), Frontend (React.js, Redux, HTML5, CSS3, Tailwind CSS, JavaScript (ES6+)), APIs (RESTful)
Databases: SQL (PostgreSQL, MySQL), NoSQL (CouchDB); familiar with MongoDB
CS Fundamentals: Data Structures & Algorithms, OOP, DBMS, Operating Systems, Computer Networks
Embedded Systems & IOT: STM32, ARM Cortex-M, Embedded System Design, Arduino, NodeMCU
VLSI: VLSI Design, Cadence Virtuoso
Industrial Automation: PLC Programming, SCADA Systems, GX Works, CODESYS

Projects

Gesture based Military Communication — April 2025 – June 2025
- Developed a wearable, two-way communication system using gesture recognition for silent military use.
- Used MPU6050 sensors to detect gestures and Zigbee modules for real-time wireless message exchange.
- Achieved 90%+ accuracy in gesture detection with low-latency (250 ms) transmission.

Health Monitoring System Using STM32 — April 2025 – May 2025
- Developed a real-time health monitoring system to measure heart rate, temperature using STM32 Nucleo-F401.
- Interfaced biomedical pulse sensor, LM35 with STM32 and displayed values on serial monitor.
- Used STM32CubeIDE and implemented UART/ADC peripherals and ensured stable sensor data acquisition.

Currency Detector for Visually Impaired — Nov 2024 – Jan 2025
- Developed a currency detection system for visually impaired users using image processing and ML techniques
- Integrated camera, UV LED, and color sensors to identify notes and detect counterfeits via security features
- Implemented real-time feedback via localhost interface, allowing users to receive audio-based denomination outputs

Health Monitoring System using IoT — June 2024 – July 2024
- Developed an IoT-based health monitoring system to track body temperature and pulse rate in real time
- Used LM35 temperature sensor and pulse sensor interfaced with Arduino for accurate vital sign measurements
- Transferred sensor data to the cloud via NodeMCU and visualized it using ThingSpeak for remote monitoring
- Enabled continuous health tracking through a web-based dashboard, enhancing accessibility for users

Achievements & Certifications

- Achieved a ranking within the top 4% of 16,000+ applicants in the competitive EricssonEdge Academia Program.
- Introduction to Cybersecurity - Cisco Networking Academy.
- Sustainability and Corporate ESG- Reliance Foundation
- Secured **1st Place in the annual Tech Fest 'Call of Duty' Tournament**, demonstrating effective teamwork and communication in a high-pressure competitive environment.
- Excelled in strategic simulation events, securing **1st Prize in 'Chrono Bid'** (auction strategy) and **2nd Place in 'TradeSync'** (financial trading competition).