

VINEET SHARMA

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EDUCATION

SRM Institute of Science & Technology Jun 2024 - Present
B. Tech · Electronics and Communication Engineering · Chennai 9.24 CGPA

Kola Perumal Chetty Vaishnav S. S. School Jul 2020 - May 2022
Senior Secondary Education · XII · CBSE 87.83%

PROJECTS

UGV (Indian Army- 19th Engineering Regiment) Jan 2025 - Jul 2025

- Developed an Unmanned Ground Vehicle, for automating the task of **planting Anti-Tank mines** in rugged Terrain by reducing the mine planting time by half.
- Designed and implemented an embedded architecture for autonomous mine deployment using Teensy 4.1, including a custom **PCB** for centralized signal routing, power distribution, and seamless integration of high-current motor drivers, stepper controllers, and the control unit.
- Implemented telemetry and live video command interface**, enabling remote, low-latency operation while maintaining precise actuator coordination and mission reliability.

FPGA Based Autonomous Maze-Solver (e-Yantra- IIT Bombay) Aug 2025- Mar 2026

- Designed and verified **RTL Models** in Verilog on Intel **De0 – Nano FPGA** on **Quartus**, developed testbenches for functional simulation and validation.
- Implemented hardware level **UART** communication and integrated algorithmic exploration logic on the FPGA.
- Implemented **PID** feedback loop for the traversal of bot.

Enhanced Visitor Assistant-EVA (Humanoid Robot) Nov 2025- Ongoing

- Developing a **6-DOF robotic arm**. Executed complete motor wiring and power distribution setup.
- Integrated and validated **CAN-based** motor control system, handling message framing, node addressing, and debugging communication errors to ensure stable actuator performance.
- Contributing on the animatronic design of the face of the bot.

Experience

SRM TEAM ROBOCON

Electronics Domian Member Sep 2024 - Present

- Designed an embedded architecture for a semi-autonomous **basketball-playing robot** for **ABU ROBOCON 2025**, representing SRM at the national level.
- Part of the Electronics domain contributing to making prototype interface boards and designed a four layered PCB for the problem statement of 2026 on **Altium Designer**.
- Working with microcontrollers that use communication protocols such as **I2C, SPI, UART**.
- Working with VESC tool to tune **BLDC motors** for the mechanism in the problem statement.
- Crucial role of selecting motors, actuators and designing an efficient circuitry.
- Was also a part of ideating different mechanisms for completing tasks more efficiently for the problem statement.

COMPETITIONS & AWARDS

NATIONAL LEVEL AUTOMATION AND ROBOTICS CHALLENGE

Feb 2025

- Designed and developed an Earthquake Rescue Bot featuring a 3-wheel omni-drive system and a 2-DOF robotic arm.

TECHKNOW HACKATHON

Dec 2024

- Secured 1st place by developing a gesture-controlled robotic vehicle for accessing inaccessible environments.

MEDISPEAK 3.0

Oct 2025

- Secured 1st place by building a Gesture-to-Text converter that translates Indian Sign Language (ISL) into real-time audio output for assistive communication.

VOLUNTEERING

ALTIUM WORKSHOP BY SRM TEAM ROBOCON

Mar 2026

- **Organized 3-day Comprehensive ALTIUM Bootcamp** to teach and provide hands-on experience on PCB Designing in SRM IST with a raise of 37% in participants than the previous edition.

SKILLS

Technical Skills

- PCB Design: Altium Designer, EasyEDA
- Embedded System: Teensy, Raspberry Pi, ESP32, FPGA: Intel DeO- Nano Cyclone IV Board, Xilinx PYNQ Z2
- Robotics: Motor Drivers, sensor integration, power electronics.
- Digital Design: Verilog (RTL Design), Testbenches, Digital Logic Design

Software & Tools

- Quartus, ModelSim, Vivado, Ardiuno IDE, Thonny, VESC Tool, slight exposure to Autodesk Fusion.

Programming Language:

- C++
- Verilog HDL
- Python