



## BRIEF SUMMARY

I am an Electronics Engineering student with a strong interest in PCB designing and practical circuit development. I enjoy working on schematic design, PCB layout, hardware testing, and building analog/digital circuits. Along with core electronics, I explore embedded systems using Arduino, STM32, ESP32 and other basic development boards and have basic exposure to VLSI design. I like understanding how circuits work and applying that knowledge by creating simple, functional hardware projects.

## KEY EXPERTISE

PCB Designing   Circuit Development & Hardware Testing   Analog & Digital Electronics   Component Selection & Soldering  
Basic Power Electronics   Embedded Systems   Basic VLSI Concepts & HDL Understanding   Signal Analysis & Measurement  
Troubleshooting & Debugging of Circuits   Prototyping on Breadboard/PCB

## EDUCATION

## MIT Academy of Engineering, Pune

2023 - 2027

B.Tech. - Electronics Engineering | CGPA: 8.31 / 10

## S.B.E.S Collage of Science, Aurangabad

2023

12<sup>th</sup> | MSBSHSE | Percentage: 60.50 / 100

## Chate School, Aurangabad

2021

10<sup>th</sup> | CBSE | Percentage: 89 / 100

## INTERNSHIPS

## INTERNSHALA TRAININGS | Core Engineering

03 Jun, 2025 - 29 Jul, 2025

VLSI Design Engineer

## Key Skills:

Hardware Description Languages Understanding   Problem Solving & Debugging   VLSI Design   HDL Coding (Verilog / VHDL)  
Simulation & Testing of Digital Circuits

I completed an 8-week online internship in VLSI Design, where I learned digital circuit design using HDL (Verilog), combinational and sequential logic, finite state machines, and system design using FPGA. The training covered end-to-end VLSI design concepts including coding, simulation, testing, and building digital systems. I also completed case studies and a final project based on FPGA-based system design. I scored 100% in the final assessment and was recognized as a top performer in the training.

## INTERNSHALA TRAININGS | Core Engineering

17 Jun, 2024 - 27 Jul, 2024

PCB Designer

## Key Skills:

Hardware Testing & Troubleshooting   Component Soldering   ERC/DRC Error Checking   BOM Preparation  
Schematic Designing   PCB Design

I completed a 6-week online internship in PCB Design, where I learned the complete process of designing electronic circuits and printed circuit boards using Autodesk Eagle. The training covered hardware components and development process, circuit explanation, schematic design, ERC/DRC error checking, PCB layout design, BOM creation, manufacturing data generation, and component soldering. I also performed hardware testing and troubleshooting and completed a final project based on PCB design. I scored 100% in the final assessment and was recognized as a top performer.

PROJECTS

Water Level Indicator

Mentor: Dr. Usha Y. Verma | Team Size: 2

Key Skills:

- Electronics Circuit Design
- Signal Amplification
- IC Interfacing
- PCB / Breadboard Prototyping
- Component Selection
- Soldering & Hardware Assembly
- Testing & Troubleshooting
- Simulation (Multisim)

Water Level Indicator is a simple electronics project designed to monitor the water level inside a tank and display the status through LEDs or a buzzer. The system uses level-sensing probes to detect different water heights and provides visual or audio alerts when the tank is empty, half-full, or full. The circuit was built using basic electronic components, and proper testing was performed to ensure reliable indication.

Hand Gesture Controlled Car Using Arduino Nano

Mentor: Dr. Vishal Puranik | Team Size: 3

Key Skills:

- Arduino Programming
- Accelerometer Interfacing
- Wireless Communication
- Embedded Systems
- Motor Driver Interfacing
- Circuit Design & Prototyping
- Gesture Recognition Logic
- Serial Communication & Debugging
- Power Management
- Hardware Testing & Troubleshooting

This project implements a Hand Gesture Controlled Car using an Arduino microcontroller and an ADXL345 accelerometer sensor. The accelerometer mounted on the hand detects tilt in different directions, which is transmitted wirelessly through NRF24L01 modules. A second Arduino receives the data and controls the motors using an L298 motor driver. The system enables forward, backward, left, and right movement based on simple hand gestures. The project demonstrates wireless communication, sensor interfacing, gesture recognition, and real-time motor control.

Tensegrity Cuboid (Anti-Gravity Structure)

Mentor: Dr. Pooja Verma

Key Skills:

- Force Balance & Stability Analysis
- Mathematical Proof / Derivation
- Model Construction
- Material Selection
- Experimentation & Observation
- Problem Solving

Constructed a tensegrity structure and proved its stability through tension–compression equilibrium analysis as part of an engineering physics project.

Design and Implementation of High-Pass and Low-Pass Filters Using Operational Amplifier

Mentor: Dr. Vrushali Waghmare

Key Skills:

- Analog Circuit Design
- Op-Amp Filter Design
- High-Pass & Low-Pass Filter Analysis
- Frequency Response Analysis
- Cut-off Frequency Calculation
- Component Selection (R & C values)
- Simulation (Multisim)
- Hardware Prototyping
- CRO/DSO Testing

Developed op-amp–based HPF and LPF circuits with calculated cutoff frequencies and validated their behavior through hardware testing. Demonstrated clear understanding of analog filtering and frequency response.

Passive High Pass Filter Designing

Mentor: Dr. Usha Y. Verma | Team Size: 2

Key Skills:

- Passive RC Circuit Design
- Cut-off Frequency Calculation
- Frequency Response Analysis
- Basic Analog Electronics

Designed a passive high-pass filter using an RC network by calculating the required cutoff frequency and selecting appropriate components.

Imitation of Plant Watering Management System Using STM32

Mentor: Dr.Ashish Mulajkar | Team Size: 3

Key Skills:

- STM32 Microcontroller Programming
- Embedded Systems Design
- ADC
- Real-time Monitoring
- Circuit Design & Prototyping

Developed an automated plant-watering management system using an STM32 microcontroller that monitors soil moisture and controls the water pump accordingly. The system imitates real-time irrigation behavior and ensures efficient water usage through sensor-based decision making.

Metal Detector

Mentor: Ms. Nutan V. Bansode | Team Size: 3

Key Skills: Sensor Coil Design Signal Amplification Oscillator Circuit Design

Designed a simple metal detector circuit based on electromagnetic induction, where the presence of metal changes the coil's frequency. The circuit output was amplified and tested to detect metallic objects effectively.

Design and Implementation of 2.1 Stereo Subwoofer Amplifier

Mentor: Mr. Nikhil B. Sardar

Key Skills:

Analog Audio Circuit Design Power Amplifier Design Active Crossover Design Power Supply Design  
PCB Layout for High-Power Audio Speaker Protection & Filtering Signal Conditioning (volume control, tone/bass management)

Designed and implemented a 2.1 audio amplifier system providing two stereo channels and a dedicated subwoofer channel with proper crossovers and power supply. The project included PCB design, enclosure, and performance testing to verify clean audio output and reliable operation.

PERSONAL DETAILS

Gender: Male

Marital Status: Single

Current Address: Juna Mondha Rohidaspora, Near Balaji  
Mandir, Aurangabad, Maharashtra, India - 431001

Emails: gormevaibhav@gmail.com , 202301060034@mitaoe.ac.in

Date of Birth: 01 Feb, 2004

Known Languages: English, Hindi, Marathi

Phone Numbers: +91-9145610003, +91-9145611003