

JAY JAIN

Electronics and Communication Engineering Student

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EDUCATION

L.D. College of Engineering

Bachelor of Technology in Electronics and Communication Engineering

CGPA: 9.43/10 (up to 5th semester)

Ahmedabad, Gujarat

Jan 2023 – May 2027

St. Arnold's Higher Secondary School

Higher Secondary Certificate (HSC) – 93.7 percentile

Godhra, Gujarat

2022 – 2023

Nalanda High School

Secondary School Certificate (SSC) – 99.88 percentile

Godhra, Gujarat

2020 – 2021

TECHNICAL SKILLS

Programming Languages: Verilog, Embedded C, C++, Python, Assembly Language, HTML/CSS

Hardware Design: VLSI Design Flow, RTL Design, Digital Circuit Design, FPGA Development

Tools & Platforms: Xilinx Vivado, Cadence Virtuoso, Arduino IDE, MATLAB

Microcontrollers: ESP32, ESP8266, Arduino Nano, Sensor Interfacing

Core Competencies: Embedded Systems, IoT Prototyping, System-Level Design, Hardware Innovation

Certifications: RTL to GDS Flow (NPTEL)

PROJECTS

Custom RISC-V Processor Design (Pipeline Architecture)

Verilog(Xilinx Vivado)

- Designed a **5-stage pipelined RISC-V RV32I CPU** (IF, ID, EX, MEM, WB) with ALU, control unit, register file, and memory modules.
- Implemented **data forwarding, hazard detection, and branch flushing** to handle RAW and control hazards efficiently.

8-Bit RISC ALU Design and Simulation

Xilinx Vivado

- Designed and implemented 8-bit RISC Architecture ALU using Verilog HDL with complete instruction set
- Performed comprehensive RTL simulation and functional verification in Xilinx Vivado environment
- Optimized logic design for reduced area and improved timing performance on FPGA platform

Integrated Track Monitoring System

Smart India Hackathon

- Conceptualized railway track monitoring solution using embedded sensors for real-time fault detection
- Designed system architecture for continuous track health monitoring and predictive maintenance
- Cleared internal hackathon stage at college level for Smart India Hackathon competition

Industrial Monitoring System

Embedded Systems

- Built comprehensive sensor-based monitoring system for industrial parameter tracking and analysis

- Interfaced multiple sensors including temperature, pressure, and motion detectors with microcontroller
- Developed data logging and visualization module for real-time industrial process monitoring

Automatic Fire Extinguisher System

Arduino Nano (Ongoing)

- Designing automated fire detection and suppression system using Arduino Nano and flame sensors
- Implementing rapid response mechanism with servo-controlled extinguisher deployment
- Integrating alarm system and IoT-based alert notifications for emergency response

ACHIEVEMENTS & HACKATHONS

- Maintained consistent academic excellence with SPI of 9.28/10 in 4th semester
- Cleared internal hackathon stage for Smart India Hackathon at college level
- Completed RTL to GDS Flow certification course from NPTEL platform
- Scored 99.88 percentile in SSC examinations demonstrating strong academic foundation
- Scored 93.7 percentile in HSC examinations with focus on science and mathematics

ADDITIONAL INFORMATION

Languages: English (Fluent), Hindi (Fluent), Gujarati (Fluent)

Soft Skills: Problem Solving, Critical Thinking, Quick Learning, Teamwork, Leadership, Effective Communication, Adaptability, Communication