ADITYA RAJ SINGH

Student in IIIT Hyderabad (BTech in Electronics and Communication Engineering)

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PROFILE

Motivated sophomore pursuing BTech ECE at IIIT Hyderabad with an comprehensive understanding of both software and hardware aspects. Proficient in programming languages like C/C++, Python & verilog coupled with hands-on experience in circuit design and embedded systems. I am eager to apply my knowledge to real-world challenges and contribute to the ever-evolving field of Technology.

LANGUAGES

- English
- Hindi

SOFTWARE & SKILL SET

- C++
- Python
- HTML/CSS
- DSA
- Verilog
- Matlab
- NGSpice
- Arduino
- Communication
- Microsoft Office
- Analog Circuits
- Coding
- Signal Processing
- Programming Skills
- Magic Layout

CODING EXPERIENCE

LeetCode

- Profile

CodeForces

- Profile

EDUCATION

IIIT Hyderabad
2022-2026 (Ongoing)

BTech in Electronics and Communication ENgineering

Presently in 2nd Year

Sunflower Hindi English Medium H.s. School
2022

CBSE 12th Board
Percentage: 88.2%

Litera Valley Zee School
2020

CBSE 10th Board
Percentage: 94.8%

AWARDS AND ACHIEVEMENTS

Here are some of my top achievements

- JEE Mains Rank - 3291**AIR** in general category
- Completed a Course on **Python Machine Learning** by **Microsoft & Coincent.ai** (Certificate)
- Completed a Course on C++ by **Abdul Bari**

POSITIONS OF RESPONSIBILTY

The Gaming Club(TGC)
2023

Active Member
- Organizing Team
- Game Development Team
- Corporate & Marketing Team

Felicity Team
2023

Active Member
- Corporate Team
- Outreach Team
- Organizing Team

PROJECTS

All of my Projects (Solo or Team) are on my Github and on my LinkedIn profile . Here are a few of them :-

Hand Gesture Volume Control - Python

This project aimed to create a model which can read hand movements from the web-cam and change the device's volume based on the distance between the thumb and the index finger .

SIGNAL PROCESSING LAB PROJECT - MATLAB

The project was divided in 3 parts and each aimed to implement different functionality in MATLAB from scratch. Part 1 focussed on **ECHO CREATION,** Part 2 focussed on **cancelling the echo** and Part 3 focussed on **identifying the noise** in a signal from a given sets of noises.

Quadrature down converter - Hardware

Designed a quadrature oscillator using opamps with a 741 IC, producing 100 kHz sinusoidal signals with a 90° phase difference and 1 Vp−p amplitude. Implemented a MOSFET mixer in LTSpice, analyzed its performance for different input frequencies, and verified in the lab. Designed and simulated a low pass RC filter with a 2 kHz cutoff, then connected all components (oscillator, mixer, filter) to create a complete circuit prototype, providing component values and performance results in simulations and measurements.

4-bit ALU - verilog/NGspice/MAGIC

The project aims to implement and design a 4-bit ALU capable of addition, subtraction, comparison, and AND operations using NG-SPICE for circuit design and Magic for layout. Estimated critical path and maximum delay, then verified functionality with Verilog, comparing pre- and post-layout results.

Fire extinguisher Robot with Sensor - Arduino

The project entails developing a smart ground robot with Arduino micro-controller, motor drivers, servo motors, water and infrared sensors for seamless movement control and to detect fire and extinguish it with the help of an attached water pump.