

# ABHISHEK SINGH

THIRD YEAR UNDERGRADUATE  
PUNJAB ENGINEERING COLLEGE

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## EDUCATION

### Punjab Engineering College, Chandigarh

B.Tech. in Electrical Engineering || CGPA: 8.67/10

2024-2028

CBSE Class XII: 88%

2022-2023

CBSE Class X: 93.6%

2020-2021

## SKILLS

**Core Electrical & Electronics:** Circuit Analysis, Control Systems, Renewable Energy Systems, Analog Electronics, Power Electronics, Semiconductor Devices

**Programming:** C++, Python

**Hardware & Simulation:** Arduino, MATLAB, Simulink

**Data & Analysis:** Microsoft Excel, SQL, Power BI, Pandas, NumPy, Matplotlib

**Other Skills:** Cross-functional Collaboration, Communication, Leadership, Critical Thinking, Problem Solving, Quantitative Analysis, Customer Insights

**Data Analytics:** Microsoft Excel, Pivot Tables, Slicers, KPI Dashboards, Data Visualization, Power BI, SQL

## PROJECTS

### Smart Glove for Sign Language Recognition & Speech Conversion | Ongoing

- Developing a wearable sign-language recognition system using flex sensors, 6-axis IMU and ESP32 for real-time gesture data acquisition.
- Designed and integrated the hardware subsystem, including sensor interfacing, microcontroller integration and power circuitry.
- Collaborating with teammates on the integration of the hardware with the software-based recognition and speech-conversion system.

### Modeling and Analysis of Grid-Connected Solar PV Array using Simulink

Designed and simulated a Grid-Connected Solar PV system in MATLAB Simulink using MPPT control for maximum power extraction. Evaluated system performance through simulation, analyzed efficiency metrics, and optimized operating parameters to improve energy output and grid synchronization.

### Arduino-Based Motion-Tracking Radar & Alarm System

Designed and implemented a motion-tracking radar system using Arduino Uno, ultrasonic sensors, and servo motors. Improved object detection accuracy through optimized control algorithms and real-time monitoring while demonstrating strong problem-solving and hardware integration skills.

## ACHIEVEMENTS

Participant – IARC Line Follower Competition, Techkriti 2025 (IIT Kanpur) Designed and competed in the IARC Line Follower Competition at Techkriti 2025, Indian Institute of Technology Kanpur, designing and optimizing an autonomous robot focused on speed, precision tracking, and efficient control algorithms.

LeetCode: 307+ problems solved | Contest Rating: 1535

## CERTIFICATIONS

Data Structures and Algorithm

Apna College(Ongoing)

AI for all: From Basics to GenAi

Nvidia Academy

Modern Programming in C++

NPTEL

Microsoft Excel

SKILL COURSE