

# KSHITIJ GUPTA

Himachal Pradesh, India

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LinkedIn

GitHub

## Summary

IoT and embedded systems engineer with hands-on experience in ChirpStack (LoRaWAN), Node-RED, and Docker for end-to-end IoT deployments. Skilled in Raspberry Pi integration, MQTT-based data pipelines, and containerized services. Experienced in real-time monitoring and visualization using Grafana.

## Education

### University School of Studies, Himachal Pradesh Technical University

Jul. 2022 – Jul. 2026

Bachelor of Technology in Computer Science & Engineering

Himachal Pradesh, India

### Government Polytechnic Sundernagar

Aug. 2019 – Jun. 2022

Diploma in Computer Science Engineering

Himachal Pradesh, India

### B.L. Central Public School, Karsog (CBSE)

May 2018 – May 2019

Secondary School (Class X)

Himachal Pradesh, India

## Experience

### Research Intern – IoT & Healthcare Systems

Jun. 2025 – Present

Indian Institute of Technology (IIT) Mandi

Himachal Pradesh, India

- Developed IoT-based non-invasive healthcare monitoring systems using Raspberry Pi and sensors.
- Implemented LoRaWAN communication using ChirpStack for secure device provisioning and data transfer.
- Designed real-time data pipelines using Node-RED and MQTT.
- Visualized data using Grafana with InfluxDB and deployed services via Docker containers.

### Technician – Computer Engineering

Sep. 2022 – Aug. 2023

Directorate of Technical Education

Sundernagar, Himachal Pradesh

- Provided technical support for computer hardware, operating systems, and lab infrastructure.
- Assisted in system troubleshooting, installations, and basic network configuration.

## Projects

### LoRaWAN Data Collection System using ChirpStack

Present

IoT & Network Systems Project

India

- Developing a LoRaWAN-based sensor data acquisition system using LoRa modules.
- Configured ChirpStack on FreeBSD and Raspberry Pi for gateway and device management.
- Implemented MQTT-based uplink data handling using structured JSON payloads.

### IoT Bazaar – Android Full Stack Application

2025

Android & Backend Project

India

- Built a full-stack Android app using Jetpack Compose for purchasing IoT components.
- Developed backend services using Node.js, Express.js, and MongoDB with REST APIs.

### Smart Smoke Detection and Alert System (SIM800L)

2025

IoT Embedded Project

India

- Designed a smoke and gas detection system using NodeMCU, MQ-2 sensor, and SIM800L GSM module.
- Implemented SMS alerts, buzzer, LED indicators, and LCD-based status display.

### Smart Inventory Management System

2025

IoT & Computer Vision Project

India

- Developed an inventory monitoring system using camera-based product detection and OCR.
- Enabled real-time inventory updates with backend database synchronization.

### Mini CNC Portrait Drawing Machine

2024

Embedded Systems Project

India

- Built a CNC plotter using Arduino Nano and stepper motors for image-based drawing.

## Certifications

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<b>Cloud Computing</b>	<i>IBM</i>	<b>Jun. 2025</b>	<i>Online</i>
<b>Introduction to Containers, Kubernetes, and OpenShift</b>	<i>IBM</i>	<b>Jun. 2025</b>	<i>Online</i>
<b>Prompt Engineering</b>	<i>IBM</i>	<b>Jun. 2025</b>	<i>Online</i>
<b>Android Development</b>	<i>Internshala</i>	<b>Jul. 2024</b>	<i>Online</i>
<b>Android Development</b>	<i>Solitaire Infosys</i>	<b>Nov. 2021</b>	<i>India</i>
<b>Vehicle Alcohol Detection and Engine Locking System</b>	<i>IoT Academic Certification</i>	<b>Nov. 2021 – Jan. 2022</b>	<i>India</i>

## Leadership & Positions of Responsibility

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<b>President – Boys Hostel</b>	<i>Government Polytechnic Sundernagar</i>	<b>2021 – 2022</b>	<i>Himachal Pradesh, India</i>
– Led hostel administration and coordinated between students and faculty. – Handled discipline, facilities, and student welfare activities.			

## Extracurricular Activities

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<b>Participant – Virtual Labs Interaction Program</b>	<i>Indian Institute of Technology (IIT) Delhi</i>	<b>2022</b>	<i>India</i>
– Gained exposure to simulation-based and remote laboratory platforms.			