

KSHITIJ GUPTA

Himachal Pradesh, India

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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

Bachelor of Technology in Computer Science & Engineering

Jul. 2022 – Jul. 2026

Himachal Pradesh, India

Government Polytechnic Sundernagar

Diploma in Computer Science Engineering

Aug. 2019 – Jun. 2022

Himachal Pradesh, India

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

Secondary School (Class X)

May 2018 – May 2019

Himachal Pradesh, India

Experience

Research Intern – IoT & Healthcare Systems

Indian Institute of Technology (IIT) Mandi

Jun. 2025 – Present

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 services via Docker containers.

Technician – Computer Engineering

Directorate of Technical Education

Sep. 2022 – Aug. 2023

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, call, 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

2025

Embedded Systems Project

India

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

Certifications

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

Leadership & Positions of Responsibility

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

Extracurricular Activities

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