

# Suryansh Sharma

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## EXPERIENCE

- IIT Mandi (SCEE)** - (Project Intern) Jun. 2025 – Jul. 2025
- Contributed to the development of deep learning models to classify diabetes using multi-sensor breath data and evaluating models to achieve high accuracy.
  - Building classification models from breath data features and signal of sensors, converting sensor signals into spectrograms, and applying deep learning models to classify patients and also generate synthetic data by GANs.
- IIT Mandi (IKSMHA)** - (Machine Learning Researcher) Jun. 2024 – Sep. 2024
- Developed Python pipelines to analyze brain connectivity using EEG signals in the time-frequency domain.
  - Performed comprehensive EEG analysis using MNE-Python, including signal filtering, ICA-based artifact removal, and analyzing ERPs (P300, N200, FRN) and Power Spectral Density (PSD) [LOR](#)

## PROJECTS

- Price Pilot** - React / Node.js / MongoDB / Flask / Scrapy / Docker / Playwright / Google Cloud [Product](#) [Code](#)
- Engineered "Price Pilot," an LLM-powered e-commerce analyst that aggregates multi-platform data to deliver "Buy/No-Buy" verdicts, reducing user research time by estimated 90%.
  - Designed a distributed scraping architecture using Python (Playwright) microservices to fetch real-time pricing and review data from Amazon/Flipkart, bypassing anti-bot measures via stealth techniques.
  - Implemented an NLP pipeline using the Gemini LLM backed up by Phi-3 LLM to synthesize thousands of unstructured reviews into qualitative insights (Sentiment, Reliability Score, Pros/Cons) stored in MongoDB.
  - Integrated an AI Inference Engine that processes raw text data into structured decision metrics (Value-for-Money Score, Audience Suitability), bridging the gap between raw data and user decision.
  - Established a CI/CD-ready production environment by Dockerizing services and deploying to Google Cloud Run, utilizing Kubernetes principles for container management and efficient resource allocation.
- AI Travel Planner (IntelliTrek)** - React.js / Vite / Node.js / Redis / Kafka / Socket.io / Firebase [Product](#) [Code](#)
- Engineered a comprehensive travel logistics platform to generate personalized, day-by-day itineraries using AI, reducing trip planning time by 90%. **Learnt:** Integrating Generative AI (LLMs) with interactive geospatial data pipelines.
  - Designed an event-driven architecture where the core API offloads time-consuming flight price tracking to an asynchronous Kafka producer/consumer system, preventing main-thread blocking and ensuring zero latency for user requests.
  - Architected a scalable backend using Node.js (Express) to orchestrate data ingestion from generative sources (Gemini), live location services (Google Places API), and high-speed caching layers (Redis).
  - Implemented real-time collaborative planning features using WebSockets and Redis Pub/Sub, allowing multiple users to edit itineraries simultaneously with optimistic UI updates. **Learnt:** Managing distributed state, concurrency locks, and race conditions in real-time systems.
- Secure Attendance System** - Python / Computer Vision / DeepFace / Dlib / OpenCV [Code](#)
- Developed a real-time attendance system using 128D facial embeddings to ensure high-accuracy, reliable identification.
  - Implemented anti-spoofing and liveness detection using DeepFace, preventing fraudulent check-ins from static photos or videos.

## TECHNOLOGIES

**Languages:** C++, C, HTML, CSS, Python, JavaScript, TypeScript.

**Frontend and Backend:** - React.js, Vite, TailwindCSS, Node.js, Express.js, Redis, Kafka, Flask, FastAPI, REST APIs, GraphQL.

**Databases and Tools** - MySQL, PostgreSQL, MongoDB, Firebase, Git, GitHub, Scrapy, Docker, Kubernetes, Socket.io.

**GenAI FrameWorks** - LangChain, LangGraph, PyTorch, Tensorflow, Scikit-learn.

## EDUCATION

**Jawahar Lal Nehru Government Engineering College, Himachal Pradesh**

*Sep 2022 - May 2026*

*Bachelor of Technology in Computer Science (AI/ ML)*

*Recent Sem GPA - 8.9*

*Overall GPA - 7.36*

## ACHIEVEMENTS

**Problem Solving** GFG / Leetcode : 250+ problems solved.

**Smart India Hackathon** - Secured 1st place at the college-level.