

# AMISHA PATEL

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LinkedIn amisha

GitHub amisha

## Education

### National Institute of Technology, Rourkela

Integrated MSc Mathematics (CGPA: 8.2)

Nov 2022 – May 2027

Rourkela, Odisha

### Maa Bharti Sr. Secondary School, Kota

AISCCE CBSE, Science (PCM) – 93.8%

July 2021

Kota, Rajasthan

### Banasthali Vidyapith

Banasthali Board – 96.6%

May 2019

Tonk, Rajasthan

## Relevant Coursework

- Data Structures and Algorithms
- Object Oriented Programming

- Operating Systems
- Database Management

- Design and Analysis of Algorithms
- Computer Networks

## Experience

### Summer Research Intern

Wireless Sensor Network Research Lab, NIT Rourkela

May 2025 – Jul 2025

GitHub

**Core Tech Stack:** Python, FastAPI, REST APIs, TensorFlow (U-Net), React.js (Vite), Google Earth Engine

- Engineered and deployed a **scalable inference service** using U-Net, integrating model execution with **backend APIs** and **data pipelines**.
- Designed and implemented a **scalable geospatial ETL pipeline** processing **30M+** satellite samples into structured GeoTIFF inputs for **production-grade inference**.
- Trained and productionized a **U-Net segmentation model**, achieving **93% pixel-level accuracy** through calibrated thresholding.
- Implemented a **FastAPI backend** with **REST endpoints** and a **React (Vite) dashboard** for tiled inference and interactive risk visualization.

## Projects

### Lung Sound Disease Classifier

Python, Librosa, FFT, Random Forest, FastAPI

Oct 2025 – Dec 2025

GitHub

- Built an **end-to-end audio ML pipeline** to segment and classify clinical lung sounds from WAV + JSON annotations.
- Designed **FFT band energy features (100–2000 Hz)** to capture wheeze and crackle patterns with medical interpretability.
- Trained a **Random Forest model** achieving **91% test accuracy** under class imbalance.
- Deployed the model via a **FastAPI service** for real-time audio inference and integration.

## Achievements/Certifications

- **Amazon ML Challenge – Smart Product Pricing**

October 2025

GitHub

Ranked in **Top 300 out of 82,787 participants** in a machine learning price prediction challenge.

- **Google Developer Groups (GDG) On Campus**

July 2025

Certificate

Recognized for proposing an **AI-driven solution**.

- **March Cohort Hackathon (BookingJini)**

March 2025

LinkedIn

Winner among **50+ teams** at T&P Hackathon, NIT Rourkela.

## Technical Skills

- **Languages:** C/C++, Python, SQL, MATLAB

- **Developer Tools:** Git, VS Code, Docker, PostgreSQL

- **Frameworks & Libraries:** FastAPI, Flask, scikit-learn, PyTorch, NumPy, Pandas

## Extracurricular Activities

### ICS Mentor, NIT Rourkela

Academic & Personal Mentor / Student Research Guide

Sept 2025 – Present

- Mentored undergraduate students in **academics, research ideation, and structured problem-solving**.
- Organized **peer-learning sessions and workshops** to strengthen technical fundamentals and collaboration.