

SPANDAN RAJ

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Education

VIT Bhopal University

Bachelor of Technology (B.Tech) in Computer Science & Engineering , CGPA- 8.55

Expected 2026

Madhya Pradesh

DAV Public School

Senior Secondary (Class 12) – CBSE, Percentage: 85.6%

July 2021

Berhampur, Odisha

DAV Public School

Secondary Education (Class 10) – CBSE, Percentage: 91.6%

July 2019

Berhampur, Odisha

Technical Skills

Programming Languages: C++, Java, Python, HTML, CSS, JavaScript

Libraries/Frameworks: TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, NumPy, Matplotlib, FastAPI

Machine Learning & Data Science: Supervised Learning, Unsupervised Learning, CNNs, LSTMs

Tools & Platforms: GitHub, FastAPI, Ngrok, Postman, AWS

Software Development: Data Structures & Algorithms, Object-Oriented Programming (OOP)

Projects

Failure Forecasting in IoT Using LSTM Autoencoder + LSTM | *Python, TensorFlow*

April 2025

- Developed a two-stage deep learning pipeline for anomaly detection and failure prediction in IoT sensor data.
- Implemented an LSTM autoencoder for anomaly detection and a separate LSTM network for failure forecasting.
- Achieved 99.69% accuracy in fault prediction using a sliding-window approach and threshold-based anomaly detection.

Farm Fusion | *Python, TensorFlow, FastAPI* | farm-fusion-sigma.vercel.app/

March 2025

- Engineered an AI-powered platform providing smart farming solutions including crop yield prediction, fertilizer recommendation, and pest detection.
- Integrated multiple ML models and deployed them through FastAPI for seamless access via a web dashboard.

Culinary Canvas | *Python, React, FastAPI* | sparkit14.github.io/Culinary-Canvas/

November 2023

- Developed a full-stack recipe recommendation web application combining user preferences, ingredient availability, and nutritional goals.
- Designed an intuitive React-based front-end interface to search, filter, and save personalized recipes.

Gesture Controlled Virtual Mouse | *Python, MediaPipe, Pybind11* | github.com/Sparkit14/Virtual-Mouse

September 2024

- Developed an innovative human-computer interaction system enabling virtual control of all I/O operations using static/dynamic hand gestures and voice commands.
- Implemented state-of-the-art Machine Learning and Computer Vision algorithms with CNNs via MediaPipe for real-time hand gesture recognition without additional hardware.
- Designed two modules: one using direct hand tracking with MediaPipe Hand Detection, and another supporting glove-based detection for enhanced accuracy.

Certifications

Advanced MERN Stack Course

July 2025

AlgoCamp

Online

AWS Solutions Architect - Associate Certification Program

April 2025

Ethnus (Codemithra)

Online

Salesforce Developer Certification Program

April 2025

Ethnus (Codemithra)

Online

HTML, CSS, and Javascript for Web Developers

December 2023

Google (Coursera)

Online

Additional Information

- Chair of UNHRC in VITBMUN'25.
- Participated in 2024 InnovateYou Hackathon, Pune.
- Led the Event Management team of a university club.