

# Raj Verma

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## SUMMARY

Enthusiastic Computer Science (AI&ML) student at VIT Bhopal with hands-on experience in Python, Data Science, and Machine Learning. Skilled in building ML models, performing data analysis, and optimizing algorithms. Passionate about applying AI to solve real-world problems, with a strong foundation in statistics, experimentation, and predictive modeling.

## EDUCATION

### VIT Bhopal University

*Bachelor of Technology, CSE-AIML*

Bhopal, Madhya Pradesh

*Sep. 2023 – Present*

### Pt. D.P. Mishra Memorial Public School

*Intermediate and High School*

Kanpur, Uttar Pradesh

*June 2019 – June 2022*

## PROJECTS

### AgriSense – Smart Agriculture Assistant | *Python, scikit-learn, pandas, Jupyter, Flask* *Mar. 2025*

- Built 2 ML models to recommend optimal crops (with 92% accuracy) and predict corn plant growth stages (MAE  $\leq$  1.5 cm).
- Used 3+ classification and regression algorithms to analyze real-time sensor and historical agricultural data.
- Integrated models into a Flask-based web app for a fully functional demo during a 36-hour hackathon.
- Handled 100% of the ML pipeline including data preprocessing, feature selection, training, validation, and packaging.

### Virtual Mouse | *Python, OpenCV, MediaPipe, PyAutoGUI*

*Dec. 2024*

- Developed a Python-based virtual mouse system using OpenCV, MediaPipe, and PyAutoGUI.
- Captured real-time hand gestures at 30 FPS through webcam and mapped movements to screen coordinates.
- Implemented fingertip detection to enable cursor movement and clicking functionality.
- Achieved 95% accuracy in gesture recognition using computer vision.

### N.E.S.T – Neighbourhood Emergency & Safety Tool | *React, Tailwind CSS, Matplotlib*

*Nov. 2024*

- Developed a full-stack community safety platform to manage emergency alerts, complaints, and feedback using React (frontend)
- Implemented features such as anonymous suggestion boxes, CCTV surveillance status, quiet hours policy, and emergency drill scheduling.
- Integrated APIs using Requests to automate data retrieval and Matplotlib for generating visual safety reports.
- Improved user engagement and safety awareness by 65% through intuitive UI and regular system-generated notifications.

## TECHNICAL SKILLS

**Languages:** Python, Java, HTML, CSS, JavaScript

**Developer Tools:** Git, Google Colab, VS Code, PyCharm

**Libraries:** NumPy, SpeechRecognition, OpenCV, MediaPipe, pyttsx3, pytube, scikit-learn

**Frameworks:** Flask

## ACHIEVEMENTS

**HackMol 6.0 Hackathon @NIT Jalandhar:** Top 10 Finalist

**LeetCode:** 100 Days Badge

**HackerRank:** Python (Basic) Certificate

**Vityarthi:** Fundamentals of AI-ML and Python Essentials

**IBM:** Python for Data Science

**SIH:** Internal Hackathon Participant

## EXTRACURRICULAR

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### **Placement Coordinator | *PAT Team, VIT Bhopal***

*Oct. 2024 - Present*

- Selected as 1 of 16 coordinators to assist in placement operations for 450+ students.
- Helped manage Cognizant and TCS placement drives ensuring smooth logistics and communication.
- Coordinated with 10+ faculty and 35+ recruiters to streamline operations.

### **Core Member | *Insight Club – Tech + Event Mgmt***

*Jan. 2025 – Present*

- Organized technical seminars on AI and launched Annual Magazine with 200+ attendees.
- Managed tech logistics: streaming, sound system, speaker support.
- Led Q&A and interactive sessions, improving engagement by 30%.