

# SPARSH TIWARI

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## EXPERIENCE

### Deep Learning And IOT Intern | MPCST Lab– Madhya Pradesh

11/2023

- Directed the integration of machine learning algorithms within the Automated Spraying System to optimize spray patterns; this innovation enhanced coverage accuracy by 25% and minimized wastage across diverse terrains.
- Spearheaded a research initiative alongside two Senior Scholars, employing advanced methodologies, resulting in a 40% increase in positive peer reviews for subsequent publications.

## EDUCATION

### VIT Bhopal University, Bhopal, Madhya Pradesh

07/2022 - 07/2026

B.Tech in Computer Science & Engineering, specialization in Artificial Intelligence and Machine Learning  
Cumulative GPA: 8.69/10

### Saraswati Vidya Mandir Inter College, Kanpur, Uttar Pradesh

07/2022

Class XII (CBSE) - Percentage: 91.6%

## PROJECTS

### Skin Cancer Classification Web App | Python, OpenCV, Streamlit, Flask

- Designed a web-based application for skin cancer classification using Custom CNN model and MobileNetV2 achieving 97% and 98% accuracy in accurately classifying diseases, integrating OpenCV for real-time video processing and image detection, enhancing the system's responsiveness and reliability by 30%.
- Leveraged Flask for a fast and efficient backend, ensuring a seamless user experience..

### Blood Group Detection Using Fingerprints | Python, OpenCV

- Achieved 94% classification accuracy by developing a CNN-based model for detecting 8 blood groups using fingerprint images, leveraging image preprocessing and data augmentation techniques.
- Implemented real-time detection pipeline with Grad-CAM visualization and automated PDF report generation, improving interpretability and reducing diagnostic time by 60%.

### Billing Management System | Java

- Created a robust Billing Management System using Java, streamlining billing processes and reducing manual errors by 40%.
- Crafted user-friendly interface, enhancing user experience and increasing system adoption by 25%..

### Plant Prediction System | Python, Deep Learning,

- Innovated a plant prediction system by implementing Sequential CNN model achieving 95% accuracy in suggesting plants on the basis of concentration of air.
- Evaluated and visualized model performance with classification reports, ROC curves, and accuracy/loss trends, improving model evaluation precision by 20%.

## EXTRACURRICULAR ACTIVITIES

### Technical Co-Lead, Android Club

VIT Bhopal University, Bhopal, Madhya Pradesh

05/2024 - 01/2025

- Led a team of 5+ members, providing innovative ideas for event and project completion and engagement.
- Orchestrated 5+ weekly meetings to plan and organize club events.
- Facilitated a technical workshop for 50+ participants on integrating IoT devices like Raspberry Pi with databases and machine learning models, enhancing attendee skills and boosting project efficiency by 40%.

## SKILLS

**Programming Languages:** Python, Java, C++

**Web Development :** HTML, CSS, JavaScript

**Technical Skills:** MongoDB, ExpressJS, NodeJS, Computer Vision, Data Analysis, IoT, Data Science, Machine Learning, Deep Learning

**Data Analysis :** Data visualization, Statistical modeling, Feature engineering

**Data Structures & Algorithms:** Solved 300+ problems in Java (GeeksforGeeks, Code360)

## ACHIEVEMENT

- Ranked** in the Top 10 at SISTec Hackathon 2024.
- Authored** a research paper on a Crop Disease Prediction System with fellow scholars.
- The 'AI-powered Pesticide Spraying Drone' was selected among the top 5 projects at Project Expo 2024, organized by VIT Bhopal University.
- Design Patent for Automated Spraying Machine** | Patent Number: 418920-001