# Arpit Sengar

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## Professional Summary

A highly motivated and solutions-oriented Computer Science undergraduate at VIT Bhopal, with a strong foundation in AI/ML, full-stack development, and real-world problem solving. Currently serving as Chapter Lead at Omdena VIT Bhopal, where I lead AI-based project execution and cross-functional collaboration. Experienced through multiple internships in developing intelligent applications involving sentiment analysis, computer vision, and Retrieval-Augmented Generation. Passionate about impactful technology, open collaboration, and continuous learning.

## Education

**VIT Bhopal University**, B.Tech. in Computer Science — Sept 2022 – Aug 2026

- GPA: 7.71/10.0
- **Relevant Coursework:** Machine Learning, Data Structures, Algorithms, Networking
- **Leadership:** Elected President, Omdena VITB Chapter - Lead and Collaborated in 10+ OSS projects
- **Achievements:** Selected finalist for Smart India Hackathon (SIH) 2024 among 2,000+ participating teams

## Experience

**SDE Intern**, Simplify3x – Bangalore, India — Oct 2024 – Dec 2024

- Engineered a context-aware RAG-based system that enhanced chatbot response accuracy by 45% through integrated retrieval and generation techniques
- Optimized conversational AI performance by implementing advanced NLP algorithms and real-time data streaming protocols

**AI ML Intern**, Paritranaya Global Pvt. Ltd. – Bhopal, Madhya Pradesh — Jun 2024 – Aug 2024

- Pioneered a CDSS-based ML model for skin lesion detection integrating Grounding DINO with Meta SAM, achieving 87% diagnostic accuracy
- Executed end-to-end deployment as a production-ready API on Hugging Face, processing 1,000+ daily image analyses

**Junior ML Engineer**, Omdena – Remote — Apr 2024 – Jun 2024

- Orchestrated deployment of cross-functional team-developed models and APIs, ensuring 99% reliability in solution integration
- Formulated and fine-tuned a sentiment analysis model using Google BERT, elevating classification accuracy from 72% to 89%

**SDE Intern**, Rex Industries – Bhopal, Madhya Pradesh — Nov 2023 – Apr 2024

- Constructed advanced computer vision algorithms using OpenCV, delivering 92% accuracy in body pose estimation
- Devised efficient solutions for real-time human pose tracking that reduced latency by 40% over previous implementations

## Projects

**MaximusML: Enterprise ML Platform** — arpy8/MaximusML

- Engineered a streamlined application for dataset management, model training, and AWS S3-based model storage, reducing deployment time by 60%
- Implemented diverse machine learning algorithms creating a versatile platform capable of addressing multiple business use cases
- Designed an intuitive user interface that decreased the learning curve for non-technical users by 75%, as measured through usability testing
- **Technologies:** Python, AWS S3, Streamlit, Scikit-learn, Docker, REST APIs, PyCaret

**BaatCheet: Secure P2P Communication Platform** — arpy8/BaatCheet

- Architected a secure peer-to-peer video communication platform utilizing WebRTC technology
- Established end-to-end encryption and secure session management protocols compliant with healthcare communication standards
- **Technologies:** JavaScript, WebRTC, Node.js, Socket.io, HTML5/CSS3

**Skin Lesion Classification System** — arpy8/Skin

- Spearheaded development of an AI-powered classification system for skin lesions achieving 91% diagnostic accuracy
- Created a Clinical Decision Support System (CDSS) that reduced diagnostic time by 65% for healthcare professionals

- Executed deployment as a production-ready API on Hugging Face, with 98% uptime
- **Technologies:** Python, PyTorch, Hugging Face, Docker, RESTful APIs

**CNN-Based Plant Disease Detection** arpy8/Plant

- Constructed a custom Convolutional Neural Network (CNN) model achieving 90% accuracy across 38 different plant disease categories
- Instituted a systematic validation approach with 5-fold cross-validation to ensure model reliability across diverse plant species
- Developed and deployed a web application enabling real-time disease diagnostics with average response time of 1.5 seconds
- **Technologies:** Python, TensorFlow/Keras, FastAPI, RESTful APIs, Docker, Streamlit

## Certifications

- Developing an AI Chatbot for Bhopal's Bus Rapid Transit System (BRTS) Navigation
- TCS iON Career Edge – Young Professional
- Introduction to Deep Learning & Neural Networks with Keras
- The Complete 2024 Web Development Bootcamp
- Python (Basic) Certificate

## Skills

**Languages:** English (Professional), Hindi (Native)

**Soft Skills:** Leadership, Communication, Adaptability, Collaboration

**Programming Languages:** Python, C++, JavaScript, TypeScript

**Tools & Technologies:** Unix/Linux, Docker, AWS, Git, GitHub, Selenium, Postman, TensorFlow, React, MongoDB

**Technical Expertise:** Machine Learning, Cloud Computing, Information Retrieval, Data Storage, Computer Vision, Natural Language Processing, API Development