

Siddharth Paliwal

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EDUCATION

Vellore Institute of Technology

Integrated M.Tech in Artificial Intelligence, CGPA: 7.68/10

Bhopal, MP

Aug 2021 – Aug 2026

St. Anne's Senior Secondary School (CBSE)

Class XII (Intermediate)

Class X (Matriculation)

Jodhpur

July 2020 – May 2021

April 2018 – May 2019

WORK EXPERIENCE

Defence Research and Development Organisation (DRDO)

October 2024 – December 2024

Artificial Intelligence Research Intern

DLJ, Jodhpur

- Built DCGAN architecture generating photorealistic Indian faces with 88% accuracy.
- Preprocessed 25,000+ facial images using OpenCV and custom data pipelines for demographic balancing.
- Optimized generator/discriminator networks reducing training time by 40% while maintaining quality.
- Implemented comprehensive evaluation metrics including FID, IS, and human perceptual studies.

Humans of Chhattisgarh (For One Media)

January 2023 – March 2023

Web Developer Intern

Chhattisgarh (Remote)

- Collaborated with a team of web developers to design and launch a website that showcases the organization's work and features regular blog posts, enhancing online presence and engagement
- Spearheaded the integration of multimedia features on the website, enhancing storytelling capabilities

PROJECTS

ChatBook | LLM Powered Document Assistant

February 2025

Skills: Python, Gemini 2.0 Flash, ChromaDB, LangChain, RAG, Streamlit

- Built real-time chat assistant processing uploaded books/documents using Gemini 2.0 Flash LLM, achieving 78% faster response times than GPT-4o.
- Implemented ChromaDB for efficient vector storage and retrieval, reducing query response time by 60%.
- Integrated LangChain with RAG architecture for multi-turn conversations and complex question flows.
- Deployed on Streamlit with user-friendly interface, supporting PDF, DOCX, and TXT file formats.

VisionCross | Safe Crossing Alert System

May 2024

Skills: Python, YOLOv8, SAHI Algorithm, PyTorch, moviepy, ffmpeg, Open CV

- Applied the SAHI (Slicing Aided Hyper Inference) algorithm to detect unsafe road crossings with 98% accuracy, significantly reducing false positives and improving overall model precision.
- Developed and deployed a real-time alert system that issued user warnings and notified local authorities within 2 seconds of detecting unsafe behaviour, improving incident response time by 50%.

AttendEase | AI Facial Recognition System

March 2023

Skills: Python, OpenCV, Local Binary Patterns Histograms, Tkinter, Pillow Library

- Developed an AI-driven attendance system using Local Binary Patterns Histograms for facial recognition, reducing manual marking time by 30% and offering a scalable solution for any institution.
- Created an OpenCV-powered interface for real-time video processing with 90% accuracy.

TECHNICAL SKILLS

Programming Languages: Java, Python, SQL

Frameworks & Libraries: Flask, Scikit Learn, TensorFlow, FastAPI, OpenCV, Transformer, GANs, LangChain

Databases: MySQL, MongoDB, ChromaDB, Pinecone

Tools: Git, GitHub, Linux, VS Code, Google Colab, Pycharm, Docker, Figma

ADDITIONAL

Certifications: Generative AI with LLMs (Coursera); Applied Machine Learning in Python (University of Michigan); Public Speaking Professional Certificate (Toastmasters); Docker Foundations Professional Certificate (Docker);

Languages: English (Fluent); Hindi (Native)

Hobbies & Interests: Graphic Designing(Blender, Adobe Creative Suite, Canva), Chess, Volleyball, Reading