

# SIDHESHWAR SHARMA

## SOFTWARE ENGINEER (AI-FOCUSED)

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LinkedIn • GitHub • LeetCode • Portfolio

### PROFESSIONAL SUMMARY

Software Engineer with experience building AI-driven backend systems using Python and FastAPI. Skilled in REST API development, database integration, and retrieval-augmented generation with local LLMs. Seeking an entry-level backend or software engineering role.

### WORK EXPERIENCE

#### Machine Learning Intern

*Defence Research and Development Organisation (DRDO) – ACEM, Nashik* Jun 2025 – Sept 2025

- Analyzed aerospace material datasets using Python, Pandas, and NumPy to support experimental research.
- Built and evaluated machine learning pipelines with feature engineering and cross-validation.
- Compared multiple models to identify optimal approaches for material property prediction.
- Documented experimental results and model insights in internal technical reports used by research teams.

### TECHNICAL SKILLS

|                        |  |
|------------------------|--|
| Programming            | Python, C++, SQL   |
| Backend & Data         | FastAPI, REST APIs, PostgreSQL, Vector Databases (Chroma)                                      |
| AI / LLMs              | Transformers, RAG, Prompt Engineering, LangChain, LangGraph, Agentic Workflows, Tool Calling   |
| Deep Learning          | Neural Networks, CNNs, PyTorch   |
| Machine Learning Tools | Feature Engineering, Model Training, Cross-Validation, Model Evaluation<br>Git, GitHub, Docker |

### PROJECTS

#### AI Customer Support System (End-to-End)

*Python, FastAPI, PostgreSQL, Streamlit, Ollama (Local LLMs), RAG*

- Designed and built an end-to-end customer support system with backend APIs and frontend interface.
- Implemented REST APIs for ticket creation, retrieval, and status tracking using FastAPI.
- Integrated authentication and role-based access control for user and admin actions.
- Implemented document ingestion and semantic search using vector databases.

#### Prompt2Manim — Agentic AI-Based Educational Video System

*Python, LLM Workflows, Manim*

- Built an agent-style system that converts structured natural language prompts into Manim animation code.
- Implemented constrained JSON planning to safely control model-generated actions.
- Reduced execution failures by adding validation layers and runtime checks.

#### TaskManager — AI Workflow Automation System

*Python, RAG, Vector Databases*

- Built a document-based AI assistant using retrieval-augmented generation.
- Implemented document ingestion, chunking, embeddings, and semantic search pipelines.
- Designed a planner-executor loop to execute tasks in a controlled sequence.

#### Ascension — AI-Driven Personal Productivity Platform

*MERN Stack, LLM Workflows*

- Built a productivity platform to track learning progress, fitness activities, and personal goals.
- Implemented gamification features including streaks and progress dashboards.
- Integrated an AI-based planner to generate daily schedules from user inputs.

### EDUCATION

#### Bachelor of Technology in Computer Science (Data Science)

Sep 2022 – Oct 2026

*DY Patil International University, Pune*

CGPA: 7.7

#### Senior Secondary (Class 12 – CBSE)

May 2022

*Kendriya Vidyalaya, Nashik*

Percentage: 81%

### ADDITIONAL INFORMATION

**Languages:** English, Hindi, Marathi

**Problem Solving:** Data Structures & Algorithms

**Certification:** Microsoft AI & ML Engineering — Coursera