

# PUSHKAR JAIN

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## Summary

Third-year Integrated M.Tech student specializing in Artificial Intelligence. Passionate about building practical AI/ML systems with interdisciplinary impact, including multi-agent orchestration, real-time computer vision, and research automation. Fast learner and effective team player, open to internship and research roles to expand hands-on skills and contribute meaningfully to emerging AI solutions.

## Skills

- **Languages & Frameworks:** Python, FastAPI, LangChain, LangGraph, YOLOv8, OpenCV
- **AI/ML & Data:** Multi-Agent Systems, Computer Vision, Hugging Face Transformers, Google Gemini, Pandas, NumPy
- **DevOps & Tools:** Docker, Prometheus, Grafana, Git, GitHub, SQLite, REST APIs, VS Code, Linux
- **Testing & Security:** Pytest, JWT Authentication
- **Soft Skills:** Problem Solving, Teamwork, Communication, Leadership, Adaptability

## Experience

### Graphic Design Intern

Feb 2024 - Current

#### Sparkling Wings NGO - Mumbai, IN

- Created impactful digital posters and visuals for nonprofit campaigns, contributing to effective social messaging.

### Research & Data Entry Volunteer

Nov 2023 - Current

#### Real Happiness of Life Foundation - Mumbai, IN

- Conducted online research and compiled structured data for social initiatives to aid decision-making and outreach.

### Campus Ambassador

Aug 2023 - Mar 2024

#### Techkriti - IIT Kanpur, IN

- Promoted India's largest technical festival in the local student community, enhancing outreach and event participation.

## Education

### Integrated MTech in Artificial Intelligence

Sep 2023 - Current

#### VIT Bhopal University - Sehore, India

## Projects

### AI Marketing API

May 2025

- Developed a FastAPI-based multi-agent system to generate personalized marketing content using Hugging Face LLMs, with segmentation via vector search (FAISS/Chroma) and JWT-secured endpoints.
- Integrated Prometheus + Grafana for real-time API monitoring, implemented feedback-driven optimization, structured logging, and deployed the system using Docker Compose.

### Multi-Agent AI Orchestration System

May 2025, 24-hr Internship Challenge

- Designed a fault-tolerant multi-agent architecture with gRPC, TLS, Prometheus, eBPF, and LangGraph for task orchestration.
- Built custom CLI tools with concurrency and AsyncIO, optimizing agent communication, monitoring, and secure task pipelines.

### Deep Research AI Agent

Apr 2025, 48-hr Internship Challenge

- Developed a research agent using LangChain, Tavily API, and Gemini for automated report drafting with Python-docx and ReportLab.
- Implemented multi-agent coordination with document analysis, summarization, and visualization through Seaborn & Matplotlib.

### AI-Powered Object Detection for Smart Cities

Oct 2024 – Dec 2024, University Project

- Built a YOLOv8-based traffic and pedestrian detection pipeline using OpenCV, Ultralytics, and Pandas for real-time analysis.
- Integrated RTOS-based architecture for edge compatibility, visualizations with Matplotlib, and policy-focused reporting.