SHASHANK PANDEY

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EDUCATION

Manipal University Jaipur   Expected: 2026
Bachelor of Technology in Computer and Communication Engineering
Cumulative GPA: 9.23 | Highest Semester GPA: 9.9

SKILLS & ACHIEVEMENTS

Languages:	Python, C++, JavaScript, C, SQL
AI/ML:	Scikit-learn, PyTorch, TensorFlow, SHAP, LLM Integration, Vision-Language Models (VLM)
Tech Stack:	FastAPI, React, Node.js, MongoDB, REST APIs, CI/CD, Docker, Git/GitHub
Core CS:	Data Structures & Algorithms, Object-Oriented Programming, Operating Systems, Computer Networks
Achievements:	Dean's List Award (4x Recipient)	Chosen for the competitive Winter Internship at ISRO SDSC (2024)
Certifications:	NPTEL Elite Certified in Data Analysis & Algorithms (DAA) and RDBMS	CCNAv7: Intro to Networks, SRWE	CCNA: Enterprise Networking, Security, and Automation
Comp. Programming:	Solved 250+ problems on LeetCode

EXPERIENCE

Larsen & Toubro (L&T) - AI Intern   May 2025 - July 2025

- Developed an agentic AI framework using the Model Context Protocol (MCP), reducing manual task execution time by 30% through intelligent workflow orchestration.
- Designed and deployed a scalable FastAPI backend to coordinate 100+ executions/day with Playwright and Google Calendar integrations in a distributed system.
- Enhanced multi-modal accuracy by 25% through integration of Vision-Language Models (BLIP-2, DETR), driving data-driven insights.
- Increased system reliability and multi-step task success rates by 40% using robust debugging pipelines, validation testing, and fault-tolerant planning with LLaMA3-70B.

PROJECTS

Agentic Desktop Assistant (MCP Framework)
Python, PyQt6, LangChain, LLaMA3

- Built a cross-platform AI assistant that executed 50+ desktop tasks (GUI, file management, document creation, data analysis, device control) accessible via GUI and secure web portal.
- Streamlined task pipelines with a distributed reasoning system — Groq-powered planner for orchestration and Playwright for web automation — boosting throughput by 35%.

ShopSmart Pro - Walmart Sparkathon
Python, FastAPI, MongoDB, JavaScript, LLM Integration

- Directed the end-to-end design of a smart retail assistant supporting voice, image, and text-based shopping, enabling real-time product search and automated cart management.
- Coordinated integration of BLIP and DETR for visual product recognition, achieving 90% accuracy and enhancing catalog coverage and user experience.

Multimodal Search Engine – GPU-Optimized Prototype
Python, FAISS, Streamlit, CLIP, BLIP, NumPy

- Created an end-to-end multimodal search system with text/image queries, CLIP/MiniLM embeddings, and BLIP auto-captioning for cross-modal retrieval.
- Benchmarked CPU NumPy vs threaded vs FAISS (CPU/GPU), achieving up to 10× faster search, with interactive dashboards to visualize latency and top-k results.
- Developed a real-time webcam demo that encodes live frames, pauses on confident matches, and displays matched dataset images/captions, showcasing applications in autonomous driving, retail, and surveillance.

Collaborative Design Studio - Dell Hack2Hire
MERN Stack, TypeScript, NextUI, CI/CD

- Developed a full-stack web-based editor using React, Node.js, and MongoDB to model and visualize data flows between interconnected applications, enabling real-time collaboration across teams.
- Implemented 'Designer' and 'Viewer' modes with role-based access control, allowing users to intuitively create, edit, and view data flow diagrams with integrated REST API support.
- Integrated a scalable architecture with TypeScript, Zod for schema validation, and NextUI for a responsive UI, enhancing system clarity, security, and usability.