Harsh Kumar

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EDUCATION

Indian Institute of Information Technology, Sri City   Chittoor, India
Bachelor of Technology - Electronics & Communication Engineering; CGPA: 7.5   *Nov 2022 - June 2026*
D.A.V public School   India
CBSE(X); Percentage: 91.4%   *April 2009 - April 2019*

EXPERIENCE

Research Assistant — IIIT Sri City   June 2025 – August 2025
Python and AI Backend Development

- Designed and built production-grade Python services and RESTful APIs using FastAPI and Flask to deploy AI-based IoT anomaly detection systems.
- Implemented scalable data preprocessing and feature engineering pipelines using NumPy and Pandas for high-volume sensor and network data.
- Integrated CNN, attention-based deep learning models, and XGBoost into backend inference workflows for real-time prediction and monitoring.
- Developed MLflow-driven experiment tracking, model versioning, and validation pipelines to ensure reproducible and reliable model deployments.

PROJECTS

Quickart ⌇   (GitHub ○)
Full-Stack E-commerce Platform

- Built a production-ready e-commerce platform using Next.js 14 with server-side rendering, static generation, and incremental regeneration to ensure fast, SEO-friendly, and scalable product pages.
- Designed modular frontend architecture with TypeScript, custom React hooks, and global state management for cart, user sessions, and checkout workflows.
- Implemented serverless backend APIs for product management, cart operations, and order processing with MongoDB, including input validation, transactional updates, and optimized indexing for performance.
- Integrated Clerk authentication with role-based access control for sellers and buyers, and used Convex for real-time cart synchronization with optimistic UI and conflict handling.
- **Technologies**: Next.js 14, TypeScript, React, MongoDB, Convex, Clerk Auth, Serverless APIs

ResoTrack ⌇   (GitHub ○)
Full-Stack AI-Powered Resume Intelligence & Matching Platform

- Built a serverless AI resume analyzer with React.js and TypeScript, integrating Puter cloud platform for storage, AI processing, and authentication.
- Implemented client-side PDF processing and AI-powered resume analysis using Gemini API for ATS scoring and personalized improvement suggestions.
- Designed responsive UI with drag-and-drop file upload, dynamic routing, and real-time feedback display using Tailwind CSS.
- **Technologies**: React.js, TypeScript, Puter Cloud APIs, Gemini API, Tailwind CSS, React Router

AI-Powered Medical Chatbot ⌇   (GitHub ○)
LLM-Driven Healthcare Assistant with RAG and API Deployment

- Built an LLM-powered medical assistant using GPT-4 and Gemini with prompt engineering and retrieval-augmented generation over Pinecone vector search.
- Designed LangChain pipelines for document ingestion, semantic retrieval, and context-aware medical response generation.
- Implemented Flask-based inference APIs with caching, logging, and error handling for scalable deployment.
- **Technologies**: Gemini, GPT-4, LangChain, Pinecone, Hugging Face, Flask, AWS, GitHub Actions

TECHNICAL SKILLS

Languages: C/C++, TypeScript, JavaScript, Python
Backend & Databases: Node.js, Express.js, MongoDB, PostgreSQL, REST APIs, WebSockets
Frontend: React.js, Next.js, Tailwind CSS, Shadcn UI, Redux, Tiptap
Backend & AI Infrastructure: FastAPI, REST APIs, Docker, CI/CD Pipelines, MLflow, LLM Inference, RAG Pipelines
DevOps & Tools: Docker, CI/CD, AWS, Git/GitHub, Vercel, Puter.js
Core CS Knowledge: Data Structures & Algorithms, Object-Oriented Programming, Operating Systems

ACHIEVEMENTS & CERTIFICATIONS

- Oracle Cloud Infrastructure 2025 Certified Generative AI Professional   *Link*
- Complete Data Science, Machine Learning, Deep Learning, NLP Bootcamp — Krish Naik   *Link*
- Solved 250+ problems on LeetCode/GfG with focus on algorithms, data structures, and problem-solving.

LEADERSHIP & RESPONSIBILITIES

IIIT SriCity Cricket Team Captain   September 2024 - nov 2025
IIIT Sri City Intercollegiate Team

- Captained the IIIT Sri City cricket team in intercollegiate tournaments, leading match strategy and on-field performance.

Events Coordinator at Abhisarga   March 2024 - December 2024
Annual College Technical Festival

- Managed technical event logistics for 1,500+ participants across 15+ competitions, ensuring 100% on-time execution.