

SANISH KUMAR

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Experience

NiftyBooks FlexCo

Aug 2025 – Present

AI Engineer

Remote

- Collaborated on R&D for **NiftyIP**, co-developing Python-based analytical pipelines to detect intellectual property (IP) infringement and unauthorized style replication across generative AI models.
- Contributed to core research in dataset auditing and membership inference, analyzing latent space representations to verify the presence of proprietary assets within a model's training data.
- Worked within a cross-functional team to translate complex AI research into production-grade systems using FastAPI and advanced vision workflows (ComfyUI/Flux), delivering scalable IP verification solutions.

TECOSYS

Jun 2024 – Jul 2024

Freelance Software Developer

Satahala, Odisha

- Orchestrated the integration of bounded and unbounded AI pipelines into a flagship web platform, developing highly robust client adapters for endpoint ingestion.
- Collaborated to break down complex system design requirements, delivering a 25% enhancement in accessibility and automated data routing.

Projects

AgenticBIM | Python, CrewAI, LLMs, IfcOpenShell, FastAPI



- Architected a production-grade AI system bridging deterministic AEC engineering data with multi-agent orchestration to analyze raw .ifc (Industry Foundation Classes) files.
- Engineered a robust Python pipeline utilizing IfcOpenShell to programmatically extract exact 3D structural geometry (BIM/CAD data), bypassing LLM spatial hallucinations entirely.
- Deployed specialized AI agents via CrewAI to evaluate extracted base quantities against building codes and pricing matrices, delivering highly accurate, real-world engineering documentation and cost analyses.

System Synthesis | Next.js, React Flow, Node.js, Socket.io, Redis



- Engineered a real-time collaborative cloud architecture whiteboard utilizing React Flow and Socket.io, backed by a scalable Node.js microservice and Redis pub/sub for low-latency state synchronization.
- Integrated a pluggable LLM adapter to analyze complex architectural graph states (JSON), returning actionable engineering feedback and auto-generating missing infrastructure nodes directly onto the canvas.

Sketch-to-Image Illustration Tool | Next.js, Image Generation, ComfyUI, FastAPI



- Built an interactive sketch-to-image web app that lets users draw rough doodles on a canvas and transform them into polished illustrations using an AI model.
- Designed the UX and generation flow so that even messy or low-skill sketches can be converted into clean drawings through a simple draw-and-generate interaction, deployed on Vercel for fast, reliable access.

Technical Skills

Languages: Python, SQL, Go, C/C++, JavaScript, TypeScript

Databases & Infrastructure: Relational Databases (PostgreSQL/MySQL), Snowflake (SnowSQL), Redis, AWS, Docker, CI/CD, Git

Data Engineering & AI Tools: Pandas, PySpark, CrewAI, IfcOpenShell, PyTorch, Hugging Face, LLMs

Web Technologies: FastAPI, Node.js, Next.js, HTML, CSS

Achievements

- Global Rank 8 in Codechef's Starters 189 (Rated).
- Top 5 Nationwide at Google's GenAI Exchange Hackathon.
- One among top 10 teams at SAP Labs Hackfest 2.0, conducted in Coimbatore, Tamil Nadu.

Certificates

- Cloud Computing by NPTEL.
- Advanced Data Structures and Algorithms by Linux Socials.
- Software Design and Architecture Specialization by Coursera.

Education

Lovely Professional University

Aug 2022 – May 2026

Bachelor of Technology in Computer Science

CGPA: 8.1