NISHIT THAKKAR

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Summary

Highly motivated AI Engineer and Software Developer with proven experience in healthcare AI, machine learning, computer vision and enterprise software. Strong track record delivering innovative, research-driven projects, from algorithm optimisation and end-to-end ML policy training to deploying advanced AI models in production. Passionate about applying technical expertise and project management skills at the intersection of research and engineering to build scalable, industry-ready AI solutions that deliver real-world impact.

Education

University of Surrey — Surrey, UK

MSc Computer Vision, Robotics and Machine Learning — 02/2025 - 02/2026

- Thesis: Multimodal Sensor Integration in 3D Gaussian Splatting for Scene Reconstruction

Indus University, Ahmedabad, India — Gandhinagar, India

BTech, Computer Engineering, Grade: 9.44/10 — 06/2019 - 05/2023

- Winner of Smart India Hackathon 2022, National Level Hackathon
- Academic Excellence, Achieved the highest SPI of 10.00 in Semester VI,VII,VIII.

Skills

• Python(Advanced) • SQL • Bash • HTML • CSS • Git • PyTorch • TensorFlow • Docker • ROS • RViz • Data Structures • Algorithms • Robot Learning • CI/CD • JavaScript • Flask • Django • Odoo ERP • Gaussian Splatting • Knowledge Graphs • RAG Systems • Data Analysis • High Work Ownership • Team Player • Leadership • Critical Thinking • SaaS

Experience

Data Scientist | Topia Life Sciences, India — 03/2024 - 01/2025

- Promoted from team member to project manager within a 5-member team, leading efforts in AI-driven drug repurposing using advanced algorithms and large-scale biomedical data.
- Engineered a knowledge graph with **88K+ nodes and 824K+ edges**, improving drug link prediction accuracy from **65% to 88%** by integrating real-time data scraping pipelines.
- Identified **9 potential repurposed drugs** over a **10-month period** using graph algorithms and predictive modeling.
- Enhanced explainability of AI predictions by integrating classical tree algorithms for transparent graph traversal.
- Developed an autonomous RAG system processing **4M+ PubMed papers and 100K+ clinical trials**, reducing expert research time from **weeks to ~20 hours per query**.

Software Developer | Odoo, India — 01/2023 - 03/2024

- Delivered **end-to-end custom Odoo solutions** for **8+ clients**, designing and deploying tailoring modules, workflows, and features to meet unique client requirements.
- Contributed to **5 major projects** by designing and implementing core functionalities and custom workflows, enabling seamless business process automation and improved operational efficiency.
- Automated the manual view-fixing process, previously consuming **3–4 days per pull request**, by developing a heuristic-based script that dynamically adapted to client-side changes, reducing developer effort and PR errors.
- Integrated the Stable Diffusion model into Odoo during a 6-month internship, developing an in-house, API-accessible solution to demonstrate practical AI model integration into enterprise systems.

Projects

Multimodal Sensor Integration in 3D Gaussian Splatting for 3D Reconstruction — 03/2025 - 09/2025

- Developed a LiDAR-augmented 3D GS framework, achieving **+5 PSNR in RGB** and **+4 PSNR in depth** over SOTA models.
- Designed a novel loss-balancing strategy between depth regularization and RGB, enabling **30% faster training** with sharper text, preserved geometry, and improved complex shape reconstruction..
- Achieved **quantitative and qualitative gains** outperforming existing benchmarks in 3D scene reconstruction.

Trifusion Former for Underwater Image Reconstruction — 02/2025 - 05/2025

- Engineered a hybrid attention mechanism combining **deformable, global, and high-frequency attention**, **surpassing state-of-the-art** spectroformer performance.
- Introduced a custom loss function for targeted attention training, achieving **+1.5 PSNR and +0.1 SSIM** on benchmark datasets.
- Enhanced network architecture with skip connections, improving feature retention and visual detail reconstruction in challenging underwater imagery.