Saurav Dosi

CONTACT INFORMATION	Master's Student Intelligent Robotics and Vision Lab (IRVL) Department of Computer Science The University of Texas at Dallas, TX, 75080	sauravdosi.com LinkedIn saurav.dosi@utdallas.edu +1 (945) 274-3058

RESEARCH INTERESTS

Multimodal Diffusion models, and Large Language Models—for advanced perception, reasoning, and simulation; applications include Medical AI and Robotics, such as intelligent exploration systems.

EDUCATION

The University of Texas at Dallas, Dallas, TX USA **2023 - Present**
Master of Science, Computer Science, IRVL Research
- Advisor: Dr. Yu Xiang

Indian Institute of Technology Dharwad, Karnataka India **2017 - 2021**
Bachelor of Technology, Mechanical Engineering (Computer Science Minor), Thesis Defence
- Advisor: Dr. Samarth Raut

SKILLS

Computer Vision, NLP, Reinforcement Learning, Robotics, Transformers, Diffusion, LLMs, VLMs

HONORS AND AWARDS

Jonsson School Dean's Graduate Scholarship, UTD, 2023

IIT Dharwad: Department Rank 2, 2021

EXPERIENCE

The University of Texas at Dallas, Dallas, TX USA October, 2023 - Present
AI Researcher at Intelligent Robotics and Vision Lab

The University of Texas at Dallas, Dallas, TX USA September, 2024 - May 2025
Grader/Teaching Assistant

ISN, Dallas, TX USA June, 2024 - August, 2024
Data Science (NLP) Intern

Quantrium AI, Chennai, India July, 2021 - July, 2023
Machine Learning Engineer

Mirrag AI, Mumbai, India April, 2021 - June, 2021
Artificial Intelligence Engineer

Express Analytics, Pune, India September, 2020 - January, 2021
Data Science Intern

PUBLICATIONS	Dosi, Saurav, Vamsi, Bala, Raut, Samarth S. and Narasimha, D. Segregation of Areca Nuts Using Three Band Photometry and Deep Neural Network, chapter 2. Soft Computing and its Engineering Applications, Springer, May 2022.
PAPERS IN PREPARATION	Dosi, Saurav, Kadosh, Itay, Allu, Sai Haneesh and Xiang, Yu. EffEx: Efficient Long Horizon Robot Exploration with Spatio-Temporal Reasoning.
TEACHING	**CS 3345: Data Structures and Algorithms**, Teaching Assistant, UTD Developed and delivered a Data Structures and Algorithms lecture on competitive linked-list challenges, featuring hands-on coding exercises to reinforce algorithmic problem-solving and deepen conceptual understanding.
PROJECTS	**Mediffuse: Diffusion-driven CT to MRI Translation**, Computer Vision Project, UTD Fine-tuned an end-to-end CT→MR diffusion pipeline using Hugging Face InstructPix2Pix, Stable Diffusion 1.5, and ControlNet++; deployed as a PyTorch-backed Gradio app with tumor-detection capabilities. **CometSeek: AI Chatbot for UTD Assistance**, Reasoning LLM Project, UTD An 85%-accurate UTD-assistant reasoning chatbot via a fine-tuned DeepSeek R1-distilled LLaMA 8B, employing prompt engineering, GRPO, Agentic RAG reranking, LlamaIndex hybrid retrieval with ChromaDB, and a Streamlit UI. **IRVL Talk: OmniManip**, CVPR 2025 Paper Presentation, UTD A study and presentation talk on OmniManip: Towards General Robotic Manipulation via Object-Centric Interaction Primitives as Spatial Constraints. **DOG: Dynamic Object Grasping**, Robotics Research Project, UTD Robotic grasping of object moving on 2D Deterministic Path with real-time Recursive Least Squares motion prediction. **InvestAID: AI powered Investment Dashboard**, HackUTD, UTD Built an Investment Assistant integrating ChatGPT 3.5, Google Stock Trends, news sentiment, and social media data via web scraping, sentiment analysis, topic classification, and few-shot meta-learning; deployed with Docker, MLflow, SageMaker, and Kafka. **IntelliMatch: Intelligent Name Matching**, Internship Project, ISN Built a TensorFlow pipeline integrating Transformers with Attention trained to prioritize keywords based on their Semantic role in a given Organization name. **GDBWat: Graph DB Watermarking**, Database Research Project, UTD Implemented a secure and robust graph database watermarking method using pseudo-nodes to ensure data integrity and ownership verification. **IRVL Talk: NoMaD**, ICRA 2024 Paper Presentation, UTD A study and presentation talk on NoMaD: Goal Masked Diffusion Policies for Navigation and Exploration. **IRVL Talk: Real-world Mobile Manipulation with RL**, CoRL 2024 Paper Presentation, UTD A study and presentation talk on Continuously Improving Mobile Manipulation with Autonomous Real-World RL.