Saurav Dosi

CONTACT
INFORMATION

Master's Student
Intelligent Robotics and Vision Lab (IRVL)
Department of Computer Science
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RESEARCH
INTERESTS

Currently researching efficient long-horizon robot exploration system. My interest lies in multimodal causal inference that reasons about action-outcome relationships in real-world decision-making.

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 (Machine Learning 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 - Present
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.

PROJECTS **Mediffuse: Diffusion-driven CT to MRI Translation**, Computer Vision Project, UTD
An end-to-end CT→MR image-translation diffusion pipeline using SOTA Flux1, Stable Diffusion, and ControlNet++ models from Hugging Face

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
AI application that integrates ChatGPT 3.5, Google Stock Trends, and alternative data sources like news sentiments and social media trends, using advanced web scraping, sentiment analysis, topic classification, and few-shot meta-learning to predict Investible pointers.

Intelligent Name Matching, Internship Project, ISN
A BiLSTM-Attention model 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.

FetchNavIsaac: Robot Navigation Toolkit, IRVL, UTD
An NVIDIA Isaac Sim Navigation starter kit with Sensor Simulation and Vision models.

Stair KeyDet: Keypoint Detection, Mirrag AI
A keypoint and person detection system for real-time staircase violation alerts using edge AI and camera feeds.