Yogesh **KULKARNI**

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LinkedIn Google Scholar

Research Interests

My research centers on building multimodal foundation models with reasoning capabilities that integrate vision (image/video), language, and audio through cross-modal alignment and grounding via Reinforcement Learning (for eg., DPO and GRPO).

Key Interests : Multimodal Large Language Models (Alignment, Reasoning), Reinforcement Learning based Post-Training, Audio - Video Understanding, Egocentric Video Understanding

Education

May 2028 – Aug 2024 | **Arizona State University, Tempe, AZ, USA**
Ph.D. in Computer Science | Advisor : Dr. Pooyan Fazli | **GPA :** 4.29/4.0

May 2024 – Aug 2022 | **University of Southern California, Los Angeles, CA, USA**
Master of Science in Computer Science | **GPA :** 3.67/4.0

May 2022 – Aug 2018 | **Pune Institute of Computer Technology, Pune, India**
Bachelor of Engineering in Computer Engineering | **CGPA :** 9.8/10.0

Experience

Present – Aug 2024 | **People and Robots Laboratory (PeRL), Arizona State University, Tempe, AZ**
Graduate Research Assistant | Advisor : Dr. Pooyan Fazli
- Enhancing reasoning and alignment in video-language models through efficient, self-supervised preference optimization and reinforcement learning.

Aug 2023 – Jun 2023 | **Nokia Bell Labs, New Providence, NJ, USA**
Research Scientist Intern | Advisor : Dr. Thomas Woo
- Accelerating distributed training of large language models by designing efficient model and pipeline parallelism strategies for heterogeneous clusters.

Mar 2024 – Jan 2023 | **USC Institute for Creative Technologies, Los Angeles, CA, USA**
Graduate Research Assistant | Advisor : Dr. Meida Chen
- Developed a 3D style transfer pipeline using CLIP-guided Gaussian splatting and diffusion models for large scale aerial point clouds.

Oct 2021 – Jul 2021 | **RBCDSAI (IIT Madras), Chennai, India**
Research Intern | Advisor : Dr. Nivethitha Somu
- Proposed an end-to-end framework for high-accuracy electricity theft detection in industrial smart grids using Enhanced Dynamic Time Warping.

Oct 2020 – Jul 2020 | **DRDO HQ, New Delhi, India**
Research Intern
- Developed a novel, scalable framework for malware analysis by building a stacked ensemble classifier to detect malicious LSB steganography in images with high accuracy.

Publications

[EMNLP' 25] **Yogesh Kulkarni**, Pooyan Fazli "VideoPASTA : 7K Preference Pairs That Matter for Video-LLM Alignment"*In Proceedings of* 2025 Conference on Empirical Methods in Natural Language Processing [PDF]

[COLM' 25] **Yogesh Kulkarni**, Pooyan Fazli "VideoSAVi : Self-Aligned Video Language Models without Human Supervision" *In Proceedings of* 2nd Conference on Language Modeling [PDF]

[arXiv' 25] **Yogesh Kulkarni**, Pooyan Fazli "EgoVITA : Learning to Plan and Verify for Egocentric Video Reasoning" *Arxiv Preprint 2025. Under Review CVPR 2026.* [PDF]

[arXiv' 25] **Yogesh Kulkarni**, Pooyan Fazli "AVATAR : Reinforcement Learning to See, Hear, and Reason Over Video" *Arxiv Preprint 2025. Under Review CVPR 2026.* [PDF]

[arXiv' 25] Chaoyu Li, **Yogesh Kulkarni**, Pooyan Fazli "ReGATE : Learning Faster and Better with Fewer Tokens in MLLMs" *Arxiv Preprint 2025. Under Review CVPR 2026.*[PDF]

[ICDM' 21] **Yogesh Kulkarni**, S. Hussain, K. Ramamritham, N. Somu "EnsembleNTLDetect : An intelligent framework for electricity theft detection in smart grid" *In Proceedings of* IEEE International Conference on Data Mining Workshops [PDF]

[ACNS' 21] **Yogesh Kulkarni**, K. Bhambani "Kryptonite : An adversarial attack using regional focus" *In Proceedings of* International Conference on Applied Cryptography and Network Security [PDF]

[Big Data' 20] **Yogesh Kulkarni**, A. Gorkar "Intensive image malware analysis and least significant bit matching steganalysis" *In Proceedings of* IEEE International Conference on Big Data [PDF]

Teaching Experience

Graduate Teaching Associate, Arizona State University

- CSE 485 : Computer Science Capstone I, Spring 2025
- CSE 240 : Intro to Programming Languages, Fall 2024, Spring 2025
- CSE 220 : Programming for Computer Engineering, Fall 2024

Honors and Awards

- Conference Travel Grant for ICDM conference in Auckland, NZ — Dec 2021
- IIT Madras Summer Fellowship — Sep 2021
- Conference Travel Grant for IEEE Big Data Conference in Atlanta, USA — Dec 2020

Professional Service

Conference Reviewer

- CVPR 2025, 2026
- AAAI 2026
- ICCV 2025
- ACL Rolling Review (ARR)