Yunhao Yang

3400 Speedway, Apt 209, Austin, TX 78705, USA || H: 409-457-8367 || yunhaoyang234@utexas.com

Github: github.com/yunhaoyang234 || Google Scholar: https://scholar.google.com/citations?user=hEKrDSEAAAAJ

EDUCATION

Doctor of Philosophy in Computer Science, Expected in May 2027
    University of Texas at Austin
Master of Science & Bachelor of Science (Integrated) in Computer Science, May 2022
    University of Texas at Austin
Bachelor of Arts in Mathematics, May 2021
    University of Texas at Austin

SELECTED PUBLICATION[1]

Yunhao Yang*, Neel P Bhatt, Rohan Siva, Pranay Samineni, Zhangyang Wang, Ufuk Topcu. "RepV: Safety-Separable Latent Spaces for Scalable Neurosymbolic Plan Verification." Under Review at MLSys, 2026

Minkyu Choi*, *Yunhao Yang**, Neel P. Bhatt*, Kushagra Gupta, Sahil Shah, Aditya Rai, David Fridovich-Keil, Ufuk Topcu, Sandeep P. Chinchali. "Real-Time Privacy Preservation for Robot Visual Perception." TMLR, 2025.

Neel P Bhatt*, *Yunhao Yang**, Rohan Siva, Daniel Milan, Ufuk Topcu, Zhangyang Wang. "Know Where You're Uncertain When Planning with Multimodal Foundation Models: A Formal Framework." MLSys (**Oral**), 2025

Yunhao Yang, Cyrus Neary, and Ufuk Topcu. "Automaton-Based Controller and Method with Generative Language Models for Task Execution." Proceedings of Neurosymbolic Systems, PMLR, 2025.

Yunhao Yang, Yuxin Hu, Mao Ye, Zaiwei Zhang, Zhichao Lu, Yi Xu, Ufuk Topcu, Ben Snyder. "Uncertainty-Guided Enhancement on Driving Perception System via Foundation Models." ICRA, 2025.

Minkyu Choi, Harsh Goel, Mohammad Omama, *Yunhao Yang*, Sahil Shah, Sandeep Chinchali. "Towards Neuro-Symbolic Video Understanding." ECCV (**Oral**), 2024.

Yunhao Yang*, Neel Bhatt*, Tyler Ingebrand*, William Ward, Steven Carr, Zhangyang Wang, and Ufuk Topcu. "Fine-Tuning Language Models Using Formal Methods Feedback: A Use Case in Autonomous Systems." MLSys (**Oral**), 2024.

Yunhao Yang, Cyrus Neary, and Ufuk Topcu. "Multimodal Pretrained Models for Verifiable Sequential Decision-Making: Planning, Grounding, and Perception." AAMAS (**Oral**), 2024.

Yunhao Yang*, Parham Gohari*, and Ufuk Topcu. "On the Privacy Risks of Deploying Recurrent Neural Networks in Machine Learning Models." Proceedings on Privacy Enhancing Technologies, 2023.

Yunhao Yang, Yi Wang, and Chandrajit Bajaj. "Deep Contrastive Patch-Based Subspace Learning for Camera Image Signal Processing." IEEE World Conference on Applied Intelligence and Computing (**Best Paper**), 2023.

Yunhao Yang, and Zhaokun Xue. "Training Heterogeneous Features in Sequence to Sequence Tasks: Latent Enhanced Multi-filter Seq2seq Model." Intelligent Systems and Applications: Proceedings of the 2022 Intelligent Systems Conference (**Best Student Paper**), 2022.

PATENT

Ufuk Topcu, *Yunhao Yang*, Cyrus Neary, and Jean-Raphaël Gaglione. "Automaton-Based Controller and Method with Generative Language Models for Task Execution." US Patent Application No.18/958,684, 2025.

AWARD AND FELLOWSHIP

Amazon Scholar (Fellowship), 2024-2025

Special Departmental Honor in Computer Science (Completed Honors Thesis Dissertation), 2022

College of Natural Science Research Distinction, 2021

Undergraduate Research Fellowship, 2020

College Scholar, 2019, 2020, 2021

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[1] * Equal Contribution

EXPERIENCE

PhD Intern, AI Research, June 2025~August 2025
Neurosymbolic Intelligence Company

PhD Intern, AI Research, June 2024~August 2024
Cruise AI

Graduate Research Assistant, June 2022~May 2023
Oden Institute for Computational Engineering & Science

Moncrief Summer Internship, June 2020~August 2020 and June 2021~August 2021
Oden Institute for Computational Engineering & Science

Research Assistant, Jan 2020-May 2022
University of Texas at Austin, McCombs School of Business

INVITED TALK

Formal-Methods-Guided Rapid LLM Refinement for Safety-Constrained Planning, UT-Amazon Hub Automated Reasoning Research, 2025

Know Where You're Uncertain When Planning with Multimodal Foundation Models, USC SAIDS Lab, 2025

Foundation Models for Verifiable Sequential Decision-Making, Amazon Science Hub Robotics Research Symposium, 2024

Fine-Tuning Language Models Using Formal Methods Feedback, UTCS Autonomous Mobile Robotics Laboratory, 2023

Multimodal Pre-trained Models for Verifiable Sequential Decision-Making, Texas Robotics Symposium, 2023

Multimodal Pre-trained Models for Verifiable Sequential Decision-Making, Microsoft Applied Sciences, 2023

COMMUNITY SERVICE

Reviewer/Program Committee for MLSys 2025, ICLR 2024 and 2025, NeurIPS 2022, 2023, and 2025, AAAI 2025
Volunteer for TACC Back@TACC, 2022, 2024

Volunteer for STEM Girl Day at UT Austin, Del Valle High School Tours, 2024, 2025

Volunteer for LASA High School Visit, FIRST Technical Challenge: Texas-Central GEMS League Tournament, 2023

Mentor for REACT RUE Summer Program, 2023

SKILL

Language: English and Chinese

Programming Language: Python, Java, C, HTML, Swift

Machine Learning and Robotics: Pytorch, Tensorflow, Scikit Learn, OpenCV, ROS, OpenAI, etc.

Formal Methods: NuSMV, Storm