

Yunhao Yang

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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

PUBLICATION¹

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

Po-han Li, Yunhao Yang, Mohammad Omama, Sandeep P. Chinchali, Ufuk Topcu. “Any2Any: Incomplete Multimodal Retrieval with Conformal Prediction.” Under Review at CVPR, 2025

Yunhao Yang, William Ward, Zichao Hu, Joydeep Biswas, Ufuk Topcu. “Joint Verification and Refinement of Language Models for Safety-Constrained Planning.” *ArXiv*, 2024

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, Jean-Raphaël Gaglione, Cyrus Neary, and Ufuk Topcu. “Large Language Models for Verifiable Sequential Decision-Making in Autonomous Systems.” *LangRob Workshop at CoRL*, 2023.

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.63/602,380*, 2023.

EXPERIENCE

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

¹ * Equal Contribution

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INVITED TALK

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, CIS 2024, HSCC 2023, JCCE (journal), NeurIPS 2023, ICIVC 2023, ICCI 2023, ICCIS 2023, CSCT 2023, NeurIPS 2022

Volunteer for TACC Back@TACC, 2022, 2024

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

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

Mentor for REACT RUE Summer Program, 2023

AWARD AND FELLOWSHIP

Amazon Scholar, 2025

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

Graduate with High Honor, 2021

Research Distinction, 2021

Undergraduate Research Fellowship, 2020

College Scholar, 2019, 2020, 2021

University Honor, 2017~2020

Second Year Excellence Award, 2019

University Interscholastic League District Champion in Mathematics, 2016, 2017

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