

YILUN DU

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Research Overview

My research seeks to build intelligent agents that can understand, reason about, and act effectively in complex, unfamiliar physical environments. I develop generative world models and methods for planning and reasoning over them to infer decisions. A central challenge is that available decision-making data are scarce and cannot span the full range of situations an agent may encounter. To address this challenge, I study compositional generative modeling: learning reusable models of simpler components and composing them to represent complex scenes, dynamics, tasks, and goals. This structure enables agents to generalize to novel situations, incorporate new knowledge incrementally, and adapt over time. My work has demonstrated the value of this approach for scene understanding, multimodal perception, reasoning, and robot planning, with broader applications across science and engineering.

Research Areas: Generative AI, Machine Learning, Computer Vision, Robotics, AI for Science.

Education

Ph.D. EECS 2020-2024	Massachusetts Institute of Technology (MIT) Advisors: Leslie Kaelbling, Tomás Lozano-Pérez, and Joshua B. Tenenbaum Thesis: <i>Learning to Generate Compositionally</i>
M.S. EECS 2019-2020	Massachusetts Institute of Technology (MIT) Advisors: Leslie Kaelbling, Tomás Lozano-Pérez, and Joshua B. Tenenbaum Thesis: <i>Implicit Learning with Energy-Based Models</i>
B.S. 2015-2019	Massachusetts Institute of Technology (MIT) EECS, GPA: 5.0 / 5.0

Employment

Assistant Professor Summer 2025	Harvard University Kempner Institute and Computer Science
Senior Research Scientist 2024-2025	Google Deepmind Research Scientist on the Deepmind Robotics Team
Graduate Researcher 2019-2024	Computer Science and Artificial Intelligence Lab, MIT LIS Group (PIs: Tomás Lozano-Pérez and Leslie Pack Kaelbling)
Graduate Researcher 2019-2024	Brain and Cognitive Science Department, MIT Computational Cognitive Science Lab (PI: Joshua Tenenbaum)
Research Advisor 2023-2024	Pika Labs Text-to-Video Synthesis / Running Research Projects
Research Intern	Google Robotics

Summer 2023	Research Intern Working on Video Models for Robotics
Student Researcher 2022-2023	Google Brain Student Researcher Working on Video Models for Decision Making
Research Intern Summer 2022	Deepmind Research Intern Working on Compositional Generative Modeling
Visiting Researcher 2020-2022	Facebook AI Research Visiting Researcher on the FAIR Proteins (Generative Biology) Team
Research Intern Summer 2019	Facebook AI Research Research Intern on the FAIR Proteins (Generative Biology) Team
Research Fellow Summer/Fall 2018	OpenAI Research Fellow Working on Generative Models

Awards and Honors

Outstanding Paper Finalist at RSS	2026
Outstanding Paper Award at ICLR	2024
National Science Foundation (NSF) Graduate Research Fellowship	2020-2024

Publications

The * symbol denotes equal contribution.

Peer-Reviewed Papers

- C131** Haoyu Chen, Kaichen Zhou, Hang Hua, Kaile Zhang, Jingwen Qian, Wufei Ma, Haonan Chen, Chun-jiang Liu, Yizhou Zhao, Xiaoyuan Wang, Weiyue Li, Alan Yuille, Paul Pu Liang, Yilun Du. “Memo-Bench: Benchmarking World Modeling in Dynamically Changing Environments” *European Conference on Computer Vision (ECCV)*, 2026.
- C130** Kaichen Zhou*, Yuzhen Chen*, Fangneng Zhan, Hang Hua, Grace Chen, Xinhai Chang, Ao Qu, Yilun Du, Zhuang Liu, Paul Pu Liang[†], Mengyu Wang[†]. “GEM-4D: Geometry-Enhanced Video World Models for Robot Manipulation” *European Conference on Computer Vision (ECCV)*, 2026.
- C129** Chaoqi Liu, Xiaoshen Han, Jiawei Gao, Yue Zhao, Haonan Chen, Yilun Du. “OAT: Ordered Action Tokenization” *Robotics: Science and Systems (RSS)*, 2026.
- C128** Zhiyi Li, Peilin Wu*, Xiaoshen Han*, Ruojin Cai, Yilun Du. “Structured 4D Latent Predictive Model for Robot Planning” *International Conference on Machine Learning (ICML)*, 2026.
- C127** Shuxin Cao, Liquan Wang, Walker Byrnes, Yiye Chen, Yilun Du, Animesh Garg. “Hierarchical Policy Learning via Spectral Decomposition” *International Conference on Machine Learning (ICML)*, 2026.
- C126** Haldun Balim, Na Li[†], Yilun Du[†]. “Model-Based Diffusion Sampling for Predictive Control in Offline Decision Making” *International Conference on Machine Learning (ICML)*, 2026.
- C125** Hansen Jin Lillemark*, Benhao Huang*, Fangneng Zhan, Yilun Du, T. Anderson Keller. “Flow Equivariant World Models: Memory for Partially Observed Dynamic Environments” *International Conference on Machine Learning (ICML)*, 2026.

- C124** Evgenii Opryshko*, Junwei Quan*, Claas Voelcker, Yilun Du, Igor Gilitschenski. “Test-Time Graph Search for Goal-Conditioned Reinforcement Learning” *International Conference on Machine Learning (ICML)*, 2026.
- C123** Renhao Zhang, Haotian Fu, Mingxi Jia, George Konidaris, Yilun Du, Bruno Castro da Silva. “From Noise to Control: Parameterized Diffusion Policies” *International Conference on Machine Learning (ICML)*, 2026.
- C122** Maijunxian Wang, Ruizi Wang, Juyi Lin, Ran Ji, Thaddäus Wiedemer, Qingying Gao, Dezhi Luo, Yaoyao Qian, Lianyu Huang, Zelong Hong, Jiahui Ge, Qianli Ma, Hang He, Yifan Zhou, Lingzi Guo, Lantao Mei, Jiachen Li, Hanwen Xing, Tianqi Zhao, Fengyuan Yu, Weihang Xiao, Yizheng Jiao, Jianheng Hou, Danyang Zhang, Pengcheng Xu, Boyang Zhong, Zehong Zhao, Gaoyun Fang, John Kitaoka, Yile Xu, Hua Xu, Kenton Blacutt, Tin Nguyen, Siyuan Song, Haoran Sun, Shaoyue Wen, Linyang He, Runming Wang, Yanzhi Wang, Mengyue Yang, Ziqiao Ma, Raphaël Milliére, Freda Shi, Nuno Vasconcelos, Daniel Khoshnab, Alan Yuille, Yilun Du, Ziming Liu, Bo Li, Dahua Lin, Ziwei Liu, Vikash Kumar, Yijiang Li, Lei Yang, Zhongang Cai, Hokin Deng. “A Very Big Video Reasoning Suite” *International Conference on Machine Learning (ICML)*, 2026.
- C121** Minda Zhao, Yilun Du, Mengyu Wang. “Large Language Models Are Bad Dice Players: LLMs Struggle to Generate Random Numbers from Statistical Distributions” *Annual Meeting of the Association for Computational Linguistics (ACL)*, 2026.
- C120** Zhiqiu Lin, Chancharik Mitra, Siyuan Cen, Isaac Li, Yuhan Huang, Yu Tong Tiffany Ling, Hewei Wang, Irene Pi, Shihang Zhu, Ryan Rao, George Liu, Jiaxi Li, Ruojin Li, Yili Han, Yilun Du, Deva Ramanan. “CHAI: Building a Precise Video Language with Human-AI Oversight” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2026.
- C119** Haowen Liu*, Shaoxiong Yao*, Haonan Chen, Jiawei Gao, Jiayuan Mao, Jia-Bin Huang, Yilun Du. “SIMPACT: Simulation-Enabled Action Planning using Vision-Language Models” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2026.
- C118** Yifan Liu, Fangneng Zhan, Kaichen Zhou, Yilun Du, Paul Pu Liang, Hanspeter Pfister. “Abstract 3D Perception for Spatial Intelligence in Vision-Language Models” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2026.
- C117** Runhan Huang, Haldun Balim, Heng Yang, Yilun Du. “Flexible Locomotion Learning with Diffusion Model Predictive Control” *International Conference on Robotics and Automation (ICRA)*, 2026.
- C116** Haonan Chen, Jiaming Xu, Hongyu Chen, Kaiwen Hong, Binghao Huang, Chaoqi Liu, Jiayuan Mao, Yunzhu Li, Yilun Du[†], Katherine Driggs-Campbell[†]. “Multi-Modal Manipulation via Multi-Modal Policy Consensus” *International Conference on Robotics and Automation (ICRA)*, 2026.
- C115** Aayush Karan, Yilun Du. “Reasoning with Sampling: Your Base Model is Smarter Than You Think” *International Conference on Learning Representations (ICLR)*, 2026.
- C114** Chenyu Wang*, Zishen Wan*, Hao Kang, Emma Chen, Zhiqiang Xie, Tushar Krishna, Vijay Reddi, Yilun Du. “SLM-MUX: Orchestrating Small Language Models for Reasoning” *International Conference on Learning Representations (ICLR)*, 2026.
- C113** Xiangcheng Zhang, Haowei Lin, Haotian Ye, James Zou, Jianzhu Ma, Yitao Liang, Yilun Du. “Inference-time Scaling of Diffusion Models through Classical Search” *International Conference on Learning Representations (ICLR)*, 2026.
- C112** Jen-Yuan Huang, Tong Ling, Yilun Du. “Long-Text-to-Image Generation via Compositional Prompt Decomposition” *International Conference on Learning Representations (ICLR)*, 2026.
- C111** Jiahan Zhang*, Muqing Jiang*, Nanru Dai, Taiming Lu, Arda Uzunoglu, Shunchi Zhang, Yana Wei, Jiahao Wang, Vishal M. Patel, Paul Pu Liang, Daniel Khoshnab, Cheng Peng, Rama Chellappa, Tianmin Shu, Alan Yuille, Yilun Du, Jieneng Chen. “World-in-World: World Models in a Closed-Loop World” *International Conference on Learning Representations (ICLR)*, 2026.

- C110** Yunzhi Zhang, Carson Murtuza-Lanier, Zizhang Li, Yilun Du, Jiajun Wu. “Product of Experts for Visual Generation” *International Conference on Learning Representations (ICLR)*, 2026.
- C109** Calvin Luo*, Zilai Zeng*, Mingxi Jia, Yilun Du, Chen Sun. “Self-Improving Loops for Visual Robotic Planning” *International Conference on Learning Representations (ICLR)*, 2026.
- C108** Yiming Li, Nael Darwiche, Amirreza Razmjoo, Sichao Liu, Yilun Du, Auke Ijspeert, Sylvain Calinon. “Geometry-aware Policy Imitation” *International Conference on Learning Representations (ICLR)*, 2026.
- C107** Alexi Gladstone, Ganesh Nanduru, Md Mofijul Islam, Peixuan Han, Hyeonjeong Ha, Aman Chadha, Yilun Du, Heng Ji, Jundong Li, Tariq Iqbal. “Energy-Based Transformers are Scalable Learners and Thinkers” *International Conference on Learning Representations (ICLR)*, 2026.
- C106** Jaeyeon Kim*, Lee Cheuk-Kit*, Carles Domingo-Enrich, Yilun Du, Sham Kakade, Timothy Ngatiaoco, Sitan Chen, Michael S. Albergo. “Any-Order Flexible Length Masked Diffusion” *International Conference on Learning Representations (ICLR)*, 2026.
- C105** Zhiqiu Lin*, Siyuan Cen*, Daniel Jiang, Jay Karhade, Hewei Wang, Chancharik Mitra, Yu Tong Tiffany Ling, Yuhan Huang, Rushikesh Zawar, Xue Bai, Yilun Du, Chuang Gan, Deva Ramanan. “Towards Understanding Camera Motions in Any Video” *Neural Information Processing Systems (NeurIPS) Track on Datasets and Benchmarks*, 2025.
- C104** Zhenting Qi, Fan Nie, Alexandre Alahi, James Zou, Himabindu Lakkaraju, Yilun Du, Eric Xing, Sham Kakade, Hanlin Zhang. “EvoLM: In Search of Lost Language Model Training Dynamics” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C103** Alexandru Oarga, Yilun Du. “Generalizable Reasoning through Compositional Energy Minimization” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C102** Yunhao Luo, Utkarsh A. Mishra, Yilun Du[†], Danfei Xu. “Generative Trajectory Stitching through Diffusion Composition” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C101** Hao Kang, Qingru Zhang, Han Cai, Weiyuan Xu, Tushar Krishna, Yilun Du, Tsachy Weissman. “Win Fast or Lose Slow: Balancing Speed and Accuracy in Latency-Sensitive Decisions of LLMs” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C100** Yuncong Yang*, Jiageng Liu*, Zheyuan Zhang, Siyuan Zhou, Reuben Tan, Jianwei Yang, Yilun Du, Chuang Gan. “MindJourney: Test-Time Scaling with World Models for Spatial Reasoning” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C99** Siyuan Zhou, Yilun Du, Yuncong Yang, Lei Han, Peihao Chen, Dit-Yan Yeung, Chuang Gan. “Learning 3D Persistent Embodied World Models” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C98** Louis Béthune, David Vigouroux, Yilun Du, Rufin VanRullen, Thomas Serre, Victor Boutin. “Follow the Energy, Find the Path: Riemannian Metrics from Energy-Based Models” *Neural Information Processing Systems (NeurIPS)*, 2025.
- C97** Yuncong Yang, Han Yang, Jiachen Zhou, Peihao Chen, Hongxin Zhang, Yilun Du, Chuang Gan. “3D-Mem: 3D Scene Memory for Embodied Exploration and Reasoning” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
- C96** Shalev Lifshitz, Sheila A. McIlraith, Yilun Du. “Multi-Agent Verification: Scaling Test-Time Compute with Multiple Verifiers” *Conference on Language Modeling (CoLM)*, 2025.
- C95** Haoyu Zhen*, Qiao Sun*, Hongxin Zhang, Junyan Li, Siyuan Zhou, Yilun Du, Chuang Gan. “Tesser-Act: Learning 4D Embodied World Models” *International Conference on Computer Vision (ICCV)*, 2025.

- C94** Runhan Huang*, Shaoting Zhu*, Yilun Du, Hang Zhao. “MoELoco: Mixture of Experts for Multitask Locomotion” *International Conference on Intelligent Robots and Systems (IROS)*, 2025.
- C93** Yanbo Wang, Justin Dauwels, Yilun Du. “Compositional Scene Understanding through Inverse Generative Modeling” *International Conference on Machine Learning (ICML)*, 2025.
- C92** Kiwhan Song*, Boyuan Chen*, Max Simchowitz, Yilun Du, Russ Tedrake, Vincent Sitzmann. “History-Guided Video Diffusion” *International Conference on Machine Learning (ICML)*, 2025.
- C91** Shenyuan Gao, Siyuan Zhou, Yilun Du, Jun Zhang, Chuang Gan. “Learning Adaptable World Models with Latent Actions” *International Conference on Machine Learning (ICML)*, 2025.
- C90** Zishen Wan, Jiayi Qian, Yuhang Du, Jason Jabbour, Yilun Du, Yang (Katie) Zhao, Arijit Raychowdhury, Tushar Krishna, Vijay Reddi. “Generative AI in Embodied Systems: System-Level Analysis of Performance, Efficiency and Scalability” *IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS)*, 2025.
- C89** Sigmund H. Hoeg, Yilun Du, Olav Egeland. “Streaming Diffusion Policy: Fast Policy Synthesis with Variable Noise Diffusion Models” *International Conference on Robotics and Automation (ICRA)*, 2025.
- C88** Yanwei Wang, Lirui Wang, Yilun Du, Balakumar Sundaralingam, Xuning Yang, Yu-Wei Chao, Claudia Perez-D’Arpino, Dieter Fox, Julie Shah. “Inference-Time Policy Steering through Human Interactions” *International Conference on Robotics and Automation (ICRA)*, 2025.
- C87** Siddharth Ancha, Sunshine Jiang, Travis Manderson, Laura Brandt, Yilun Du, Philip R. Osteen, Nicholas Roy. “Anomalies-by-Synthesis: Anomaly Detection using Generative Diffusion Models for Off-Road Navigation” *International Conference on Robotics and Automation (ICRA)*, 2025.
- C86** Vighnesh Subramaniam*, Yilun Du*, Joshua B. Tenenbaum, Antonio Torralba, Shuang Li, Igor Mor-datch. “Multiagent Finetuning: Self Improvement with Diverse Reasoning Chains” *International Conference on Learning Representations (ICLR)*, 2025.
- C85** Yunhao Luo, Yilun Du. “Grounding Video Models to Actions through Goal Conditioned Exploration” *International Conference on Learning Representations (ICLR)*, 2025.
- C84** Calvin Luo, Zilai Zeng, Yilun Du, Chen Sun. “Solving New Tasks by Adapting Internet Video Knowledge” *International Conference on Learning Representations (ICLR)*, 2025.
- C83** Ying Fan, Yilun Du, Kannan Ramchandran, Kangwook Lee. “Looped Transformers for Length Generalization” *International Conference on Learning Representations (ICLR)*, 2025.
- C82** Wenhao Chai*, Enxin Song*, Yilun Du, Chenlin Meng, Vashisht Madhavan, Omer Bar-Tel, Jenq-Neng Hwang, Saining Xie, Christopher D. Manning. “AuroraCap: Efficient, Performant Video Detailed Captioning and a New Benchmark” *International Conference on Learning Representations (ICLR)*, 2025.
- C81** Hongxin Zhang*, Zeyuan Wang*, Qiushi Lyu*, Zheyuan Zhang, Sunli Chen, Tianmin Shu, Yilun Du, Chuang Gan. “COMBO: Compositional World Models for Embodied Multi-Agent Cooperation” *International Conference on Learning Representations (ICLR)*, 2025.
- C80** Julia Briden, Yilun Du, Enrico Zucchelli, Richard Linares. “Compositional Diffusion Models for Powered Descent Trajectory Generation with Flexible Constraints” *IEEE Aerospace Conference*, 2025.
- C79** Aviv Netanyahu, Yilun Du, Antonia Bronars, Jyotish Pari, Joshua B. Tenenbaum, Tianmin Shu, Pulkit Agrawal. “Few-Shot Task Learning through Inverse Generative Modeling” *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.
- C78** Boyuan Chen, Diego Marti Monso, Yilun Du, Max Simchowitz, Russ Tedrake, Vincent Sitzmann. “Diffusion Forcing: Next-token Prediction Meets Full-Sequence Diffusion” *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.

- C77** Yinan Zhang, Eric Tzeng, Yilun Du, Dmitry Kislyuk. “Large-scale Reinforcement Learning for Diffusion Models” *European Conference on Computer Vision (ECCV)*, 2024.
- C76** Jie Yin, Andrew Luo, Yilun Du, Anoop Cherian, Tim K. Marks, Jonathan Le Roux, Chuang Gan. “Disentangled Acoustic Fields For Multimodal Physical Scene Understanding” *International Conference on Intelligent Robots and Systems (IROS)*, 2024.
- C75** Yiqing Xu, Jiayuan Mao, Yilun Du, Tomás Lozano-Pérez, Leslie Kaelbling, David Hsu. ““Set It Up!”: Functional Object Arrangement with Compositional Generative Models” *Robotics: Science and Systems (RSS)*, 2024.
- C74** Lirui Wang, Alan Zhao, Yilun Du, Edward Adelson, Russ Tedrake. “PoCo: Policy Composition from and for Heterogeneous Robot Learning” *Robotics: Science and Systems (RSS)*, 2024.
- C73** Yilun Du, Leslie Kaelbling. “Compositional Generative Modeling: A Single Model is Not All You Need” *International Conference on Machine Learning (ICML)*, 2024.
- C72** Yilun Du, Shuang Li, Antonio Torralba, Joshua B. Tenenbaum, Igor Mordatch. “Improving Factuality and Reasoning in Language Models through Multiagent Debate” *International Conference on Machine Learning (ICML)*, 2024.
- C71** Yilun Du*, Jiayuan Mao*, Joshua B. Tenenbaum. “Learning Iterative Reasoning through Energy Diffusion” *International Conference on Machine Learning (ICML)*, 2024.
- C70** Yunhao Luo, Chen Sun, Joshua B. Tenenbaum, Yilun Du. “Potential Based Diffusion Motion Planning” *International Conference on Machine Learning (ICML)*, 2024.
- C69** Jocelin Su*, Nan Liu*, Yanbo Wang*, Joshua B. Tenenbaum, Yilun Du. “Compositional Image Decomposition with Diffusion Models” *International Conference on Machine Learning (ICML)*, 2024.
- C68** Siyuan Zhou, Yilun Du, Jiaben Chen, Yandong Li, Dit-Yan Yeung, Chuang Gan. “RoboDreamer: Learning Compositional World Models for Robot Imagination” *International Conference on Machine Learning (ICML)*, 2024.
- C67** Sherry Yang, Jacob Walker, Jack Parker-Holder, Yilun Du, Jake Bruce, Andre Barreto, Pieter Abbeel, Dale Schuurmans. “Video as the New Language for Real-World Decision Making” *International Conference on Machine Learning (ICML)*, 2024.
- C66** Haoyu Zhen, Xiaowen Qiu, Peihao Chen, Jincheng Yang, Xin Yan, Yilun Du, Yining Hong, Chuang Gan. “3D-VLA: A 3D Vision-Language-Action Generative World Model” *International Conference on Machine Learning (ICML)*, 2024.
- C65** Yilun Du, Sherry Yang, Pete Florence, Fei Xia, Ayzaan Wahid, Brian Ichter, Pierre Sermanet, Tianhe Yu, Pieter Abbeel, Joshua B. Tenenbaum, Leslie Kaelbling, Andy Zeng, Jonathan Tompson. “Video Language Planning” *International Conference on Learning Representations (ICLR)*, 2024.
- C64** Kevin Black*, Michael Janner*, Yilun Du, Ilya Kostrikov, Sergey Levine. “Training Diffusion Models with Reinforcement Learning” *International Conference on Learning Representations (ICLR)*, 2024.
- C63** Tailin Wu*, Takashi Maruyama*, Long Wei*, Tao Zhang*, Yilun Du*, Gianluca Iaccarino, Jure Leskovec. “Compositional Generative Inverse Design” *International Conference on Learning Representations (ICLR)*, 2024.
- C62** Mengjiao Yang*, Yilun Du*, Bo Dai, Dale Schuurmans, Joshua B. Tenenbaum, Pieter Abbeel. “Probabilistic Adaptation of Text-to-Video Models” *International Conference on Learning Representations (ICLR)*, 2024.
- C61** Mengjiao Yang, Yilun Du, Kamyar Ghasemipour, Jonathan Tompson, Leslie Kaelbling, Dale Schuurmans, Pieter Abbeel. “Learning Interactive Real-World Simulators” *International Conference on Learning Representations (ICLR)*, 2024.

- C60** Po-Chen Ko, Jiayuan Mao, Yilun Du, Shao-Hua Sun, Joshua B. Tenenbaum. “Learning to Act from Actionless Video through Dense Correspondences” *International Conference on Learning Representations (ICLR)*, 2024.
- C59** Yichen Li, Yilun Du, Chao Liu, Francis Williams, Michael Foshey, Benjamin Eckart, Jan Kautz, Joshua B. Tenenbaum, Antonio Torralba, Wojciech Matusik. “Learning to Jointly Understand Visual and Tactile Signals” *International Conference on Learning Representations (ICLR)*, 2024.
- C58** Hongxin Zhang, Weihua Du, Jiaming Shan, Qinhong Zhou, Yilun Du, Joshua B. Tenenbaum, Tianmin Shu, Chuang Gan. “Building Cooperative Embodied Agents Modularly with Large Language Models” *International Conference on Learning Representations (ICLR)*, 2024.
- C57** Qinhong Zhou, Sunli Chen, Yisong Wang, Haozhe Xu, Weihua Du, Hongxin Zhang, Yilun Du, Joshua B. Tenenbaum, Chuang Gan. “HAZARD Challenge: Embodied Decision Making in Dynamically Changing Environments” *International Conference on Learning Representations (ICLR)*, 2024.
- C56** Anurag Ajay*, Seungwook Han*, Yilun Du*, Shuang Li, Abhi Gupta, Tommi Jaakkola, Joshua B. Tenenbaum, Leslie Kaelbling, Akash Srivastava, Pulkit Agrawal. “Compositional Foundation Models for Hierarchical Planning” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C55** Yilun Du*, Mengjiao Yang*, Bo Dai, Hanjun Dai, Ofir Nachum, Joshua B. Tenenbaum, Dale Schurmans, Pieter Abbeel. “Learning Universal Policies via Text-Guided Video Generation” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C54** Siyuan Zhou, Yilun Du, Shun Zhang, Mengdi Xu, Yikang Shen, Wei Xiao, Dit-Yan Yeung, Chuang Gan. “Adaptive Online Replanning with Diffusion Models” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C53** Cameron Smith, Yilun Du, Ayush Tewari, Vincent Sitzmann. “FlowCam: Training Generalizable 3D Radiance Fields without Camera Poses via Pixel-Aligned Scene Flow” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C52** Yining Hong, Haoyu Zhen, Peihao Chen, Shuhong Zheng, Yilun Du, Zhenfang Chen, Chuang Gan. “3D-LLM: Injecting the 3D World into Large Language Models” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C51** Tsun-Hsuan Wang, Juntian Zheng, Pingchuan Ma, Yilun Du, Byungchul Kim, Andrew Spielberg, Joshua B. Tenenbaum, Chuang Gan, Daniela Rus. “DiffuseBot: Breeding Soft Robots With Physics-Augmented Generative Diffusion Models” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C50** Shengzhuang Chen, Long-Kai Huang, Jonathan Richard Schwarz, Yilun Du, Ying Wei. “Secure Out-of-Distribution Task Generalization with Energy-Based Models” *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- C49** Zhutian Yang, Jiayuan Mao, Yilun Du, Jiajun Wu, Joshua B. Tenenbaum, Tomás Lozano-Pérez, Leslie Kaelbling. “Compositional Diffusion-Based Continuous Constraint Solvers” *Conference on Robot Learning (CoRL)*, 2023.
- C48** Nan Liu*, Yilun Du*, Shuang Li*, Joshua B. Tenenbaum, Antonio Torralba. “Unsupervised Compositional Concepts Discovery with Text-to-Image Generative Models” *International Conference on Computer Vision (ICCV)*, 2023.
- C47** Yilun Du, Conor Durkan, Robin Strudel, Joshua B. Tenenbaum, Sander Dieleman, Rob Fergus, Jascha Sohl-Dickstein, Arnaud Doucet, Will Grathwohl. “Reduce, Reuse, Recycle: Compositional Generation with Energy-Based Diffusion Models and MCMC” *International Conference on Machine Learning (ICML)*, 2023.

- C46 Armand Comas, Yilun Du, Christian Fernandez, Sandesh Ghimire, Mario Sznaiier, Joshua B. Tenenbaum, Octavia Camps. “Inferring Relational Potentials in Interacting Systems” *International Conference on Machine Learning (ICML)*, 2023.
- C45 Jiahui Fu, Yilun Du, Kurran Singh, Joshua B. Tenenbaum, John J. Leonard. “NeuSE: Neural SE(3)-Equivariant Embedding for Consistent Spatial Understanding with Objects” *Robotics: Science and Systems (RSS)*, 2023.
- C44 Weiyu Liu, Yilun Du, Tucker Hermans, Sonia Chernova, Chris Paxton. “StructDiffusion: Language-Guided Creation of Physically-Valid Structures using Unseen Objects” *Robotics: Science and Systems (RSS)*, 2023.
- C43 Cheng Chi, Siyuan Feng, Yilun Du, Zhenjia Xu, Eric Cousineau, Benjamin Burchfiel, Shuran Song. “Diffusion Policy: Visuomotor Policy Learning via Action Diffusion” *Robotics: Science and Systems (RSS)*, 2023.
- C42 Yilun Du, Cameron Smith, Ayush Tewari, Vincent Sitzmann. “Learning to Render Novel Views from Wide-Baseline Stereo Pairs” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- C41 Yining Hong, Chunru Lin, Yilun Du, Zhenfang Chen, Joshua B. Tenenbaum, Chuang Gan. “3D Concept Learning and Reasoning from Multi-View Images” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- C40 Anurag Ajay*, Yilun Du*, Abhi Gupta*, Joshua B. Tenenbaum, Tommi S. Jaakkola, Pulkit Agrawal. “Is Conditional Generative Modeling all You Need for Decision-Making?” *International Conference on Learning Representations (ICLR)*, 2023.
- C39 Shuang Li*, Yilun Du*, Joshua B. Tenenbaum, Antonio Torralba, Igor Mordatch. “Composing Ensembles of Pre-trained Models via Iterative Consensus” *International Conference on Learning Representations (ICLR)*, 2023.
- C38 Hongyi Chen*, Yilun Du*, Yiye Chen*, Joshua B. Tenenbaum, Patricio Antonio Vela. “Planning with Sequence Models through Iterative Energy Minimization” *International Conference on Learning Representations (ICLR)*, 2023.
- C37 Prafull Sharma, Ayush Tewari, Yilun Du, Sergey Zakharov, Rares Ambrus, Adrien Gaidon, William T. Freeman, Fredo Durand, Joshua B. Tenenbaum, Vincent Sitzmann. “Neural Groundplans: Persistent Neural Scene Representations from a Single Image” *International Conference on Learning Representations (ICLR)*, 2023.
- C36 Ethan Chun, Yilun Du, Anthony Simeonov, Tomás Lozano-Pérez, Leslie Kaelbling. “Local Neural Descriptor Fields: Locally Conditioned Object Representations for Manipulation” *International Conference on Robotics and Automation (ICRA)*, 2023.
- C35 Jose Iturralde*, Aiden Curtis*, Yilun Du, Leslie Kaelbling, Tomás Lozano-Pérez. “Visibility-Aware Navigation Among Movable Objects” *International Conference on Robotics and Automation (ICRA)*, 2023.
- C34 Anthony Simeonov*, Yilun Du*, Yen-Chen Lin, Alberto Rodriguez, Leslie Kaelbling, Tomás Lozano-Pérez, Pulkit Agrawal. “SE(3)-Equivariant Relational Rearrangement with Neural Descriptor Fields” *Conference on Robot Learning (CoRL)*, 2022.
- C33 Yen-Chen Lin, Pete Florence, Andy Zeng, Jonathan T. Barron, Yilun Du, Wei-Chiu Ma, Anthony Simeonov, Alberto Rodriguez, Phillip Isola. “MIRA: Mental Imagery for Robotic Affordances” *Conference on Robot Learning (CoRL)*, 2022.
- C32 Andrew Luo, Yilun Du, Michael J. Tarr, Joshua B. Tenenbaum, Antonio Torralba, Chuang Gan. “Learning Neural Acoustic Fields” *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.

- C31** Yining Hong, Yilun Du, Chunru Lin, Joshua B. Tenenbaum, Chuang Gan. “3D Concept Grounding on Neural Fields” *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- C30** Shuang Li, Xavier Puig, Chris Paxton, Yilun Du, Clinton Wang, Linxi Fan, Tao Chen, De-An Huang, Ekin Akyurek, Anima Anandkumar, Jacob Andreas, Igor Mordatch, Antonio Torralba, Yuke Zhu. “Pre-Trained Language Models for Interactive Decision-Making” *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- C29** Nan Liu*, Shuang Li*, Yilun Du*, Antonio Torralba, Joshua B. Tenenbaum. “Compositional Visual Generation with Composable Diffusion Models” *European Conference on Computer Vision (ECCV)*, 2022.
- C28** Yilun Du, Tomás Lozano-Pérez, Leslie Pack Kaelbling. “Learning Object-Based State Estimators for Household Robots” *International Conference on Intelligent Robots and Systems (IROS)*, 2022.
- C27** Jiahui Fu, Yilun Du, Kurran Singh, Joshua B. Tenenbaum, John J. Leonard. “Robust Change Detection Based on Neural Descriptor Fields” *International Conference on Intelligent Robots and Systems (IROS)*, 2022.
- C26** Michael Janner*, Yilun Du*, Joshua B. Tenenbaum, Sergey Levine. “Planning with Diffusion for Flexible Behavior Synthesis” *International Conference on Machine Learning (ICML)*, 2022.
- C25** Yilun Du, Shuang Li, Joshua B. Tenenbaum, Igor Mordatch. “Learning Iterative Reasoning through Energy Minimization” *International Conference on Machine Learning (ICML)*, 2022.
- C24** Rylan Schaeffer, Yilun Du, Gabrielle Liu, Ila Fiete. “Streaming Inference for Infinite Feature Models” *International Conference on Machine Learning (ICML)*, 2022.
- C23** Shuang Li, Yilun Du, Gido M. van de Ven, Antonio Torralba, Igor Mordatch. “Energy-Based Models for Continual Learning” *Conference on Lifelong Learning Agents (CoLLA)*, 2022.
- C22** Rylan Schaeffer, Gabrielle Liu, Yilun Du, Scott Linderman, Ila Fiete. “Streaming Inference for Infinite Non-Stationary Clustering” *Conference on Lifelong Learning Agents (CoLLA)*, 2022.
- C21** Klaus Greff, Francois Belletti, Lucas Beyer, Carl Doersch, Yilun Du, Daniel Duckworth, David J. Fleet, Dan Gnanapragasam, Florian Golemo, Charles Herrmann, Thomas Kipf, Abhijit Kundu, Dmitry Lagun, Issam Laradji, Derek Liu, Hsueh-Ti Liu, Henning Meyer, Yishu Miao, Derek Nowrouzezahrai, Cengiz Oztireli, Etienne Pot, Noha Radwan, Daniel Rebain, Sara Sabour, Mehdi Sajjadi, Matan Sela, Vincent Sitzmann, Austin Stone, Deqing Sun, Suhani Vora, Ziyu Wang, Tianhao Wu, Kwang Moo Yi, Fangcheng Zhong, Andrea Tagliasacchi. “Kubric: A Scalable Dataset Generator” *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
- C20** Anthony Simeonov*, Yilun Du*, Andrea Tagliasacchi, Joshua B. Tenenbaum, Alberto Rodriguez, Pulkit Agrawal, Vincent Sitzmann. “Neural Descriptor Fields: SE(3)-Equivariant Object Representations for Manipulation” *International Conference on Robotics and Automation (ICRA)*, 2022.
- C19** Yilun Du, Shuang Li, Yash Sharma, Joshua B. Tenenbaum, Igor Mordatch. “Unsupervised Learning of Compositional Energy Concepts” *Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
- C18** Nan Liu*, Shuang Li*, Yilun Du*, Joshua B. Tenenbaum, Antonio Torralba. “Learning to Compose Visual Relations” *Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
- C17** Yilun Du, Katie Collins, Joshua B. Tenenbaum, Vincent Sitzmann. “Learning Signal-Agnostic Manifolds of Neural Fields” *Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
- C16** Joseph Suarez, Yilun Du, Clare Zhu, Igor Mordatch, Phillip Isola. “The Neural MMO Platform for Massively Multiagent Research” *Advances in Neural Information Processing Systems Track on Datasets and Benchmarks (NeurIPS)*, 2021.

- C15 Linqi Zhou, Yilun Du, Jiajun Wu. “3D Shape Generation and Completion through Point-Voxel Diffusion” *International Conference on Computer Vision (ICCV)*, 2021.
- C14 Yilun Du, Yinan Zhang, Hong-Xing Yu, Joshua B. Tenenbaum, Jiajun Wu. “Neural Radiance Flow for 4D View Synthesis and Video Processing” *International Conference on Computer Vision (ICCV)*, 2021.
- C13 Yilun Du, Chuang Gan, Phillip Isola. “Curious Representation Learning for Embodied Intelligence” *International Conference on Computer Vision (ICCV)*, 2021.
- C12 Shuang Li, Yilun Du, Antonio Torralba, Josef Sivic, Bryan Russell. “Weakly Supervised Human-Object Interaction Detection in Video via Contrastive Spatiotemporal Regions” *International Conference on Computer Vision (ICCV)*, 2021.
- C11 Yilun Du, Shuang Li, Joshua B. Tenenbaum, Igor Mordatch. “Improved Contrastive Divergence Training of Energy-Based Models” *International Conference on Machine Learning (ICML)*, 2021.
- C10 Yilun Du, Kevin Smith, Tomer Ulman, Joshua B. Tenenbaum, Jiajun Wu. “Unsupervised Discovery of 3D Physical Objects from Video” *International Conference on Learning Representations (ICLR)*, 2021.
- C9 Yilun Du, Shuang Li, Igor Mordatch. “Compositional Visual Generation with Energy Based Models” *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.
- C8 Anthony Simeonov, Yilun Du, Beomjoon Kim, Francois Hogan, Joshua B. Tenenbaum, Pulkit Agrawal, Alberto Rodriguez. “A Long Horizon Planning Framework for Manipulating Rigid Pointcloud Objects” *Conference on Robot Learning (CoRL)*, 2020.
- C7 Yilun Du, Joshua Meier, Jerry Ma, Rob Fergus, Alexander Rives. “Energy-based models for atomic-resolution protein conformations” *International Conference on Learning Representations (ICLR)*, 2020.
- C6 Xingyou Song, Yiding Jiang, Yilun Du, Behnam Neyshabur. “Observational Overfitting in Reinforcement Learning” *International Conference on Learning Representations (ICLR)*, 2020.
- C5 Joseph Suarez, Yilun Du, Igor Mordatch, Phillip Isola. “Neural MMO v1.3: A Massively Multiagent Game Environment for Training and Evaluating Neural Networks” *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2020 (extended abstract).
- C4 Yilun Du, Toru Lin, Igor Mordatch. “Model-Based Planning with Energy-Based Models” *Conference on Robot Learning (CoRL)*, 2019.
- C3 Yilun Du, Igor Mordatch. “Implicit Generation and Modeling with Energy Based Models” *Advances in Neural Information Processing Systems (NeurIPS)*, 2019.
- C2 Yilun Du, Karthik Narasimhan. “Task-Agnostic Dynamics Priors for Deep Reinforcement Learning” *International Conference on Machine Learning (ICML)*, 2019.
- C1 Yilun Du, Zhijian Liu, Hector Basevi, Ales Leonardis, William T. Freeman, Joshua B. Tenenbaum, Jiajun Wu. “Learning to Exploit Stability for 3D Scene Parsing” *Advances in Neural Information Processing Systems (NeurIPS)*, 2018.

Journal

- J8 Han Qi, Haocheng Yin, Aris Zhu, Yilun Du, Heng Yang. “Inference-Time Enhancement of Generative Robot Policies via Predictive World Modeling” *IEEE Robotics and Automation Letters (RA-L)*, 2026.
- J7 Chaoqi Liu, Haonan Chen, Sigmund H. Høeg, Shaoxiong Yao, Yunzhu Li, Kris Hauser, Yilun Du. “Flexible Multitask Learning with Factorized Diffusion Policy” *IEEE Robotics and Automation Letters (RA-L)*, 2026.

- J6** Sigmund H. Høeg, Aksel Vaaler, Chaoqi Liu, Olav Egeland, [Yilun Du](#). “Hybrid Diffusion for Simultaneous Symbolic and Continuous Planning” *IEEE Robotics and Automation Letters (RA-L)*, 2026.
- J5** Jiahui Fu, [Yilun Du](#), Kurran Singh, Joshua B. Tenenbaum, John J. Leonard. “NeuSE: Neural SE(3)-Equivariant Embedding for Long-Term Object-Based Simultaneous Localization and Mapping” *The International Journal of Robotics Research (IJRR)*, 2026.
- J4** Robert McCarthy, Daniel C. H. Tan, Dominik Schmidt, Fernando Acero, Nathan Herr, [Yilun Du](#), Thomas G. Thuruthel, Zhibin Li. “Towards Generalist Robot Learning from Internet Video: A Survey” *Journal of Artificial Intelligence Research (JAIR)*, 2025.
- J3** Julen Urain, Ajay Mandlekar, [Yilun Du](#), Mahi Shafiullah, Danfei Xu, Katerina Fragkiadaki, Georgia Chalvatzaki, Jan Peters. “Deep Generative Models in Robotics: A Survey on Learning from Multimodal Demonstrations” *IEEE Transactions on Robotics (T-RO)*, 2025.
- J2** Yiqing Xu, Jiayuan Mao, Linfeng Li, [Yilun Du](#), Tomás Lozano-Pérez, Leslie Pack Kaelbling, David Hsu. ““Set It Up”: Functional Object Arrangement with Compositional Generative Models” *The International Journal of Robotics Research (IJRR)*, 2025.
- J1** Cheng Chi*, Zhenjia Xu*, Siyuan Feng, Eric Cousineau, [Yilun Du](#), Benjamin Burchfiel, Russ Tedrake, Shuran Song. “Diffusion Policy: Visuomotor Policy Learning via Action Diffusion” *The International Journal of Robotics Research (IJRR)*, 2025.

Technical Reports

- P5** Gemini Team. “Gemini 2.5: Pushing the Frontier with Advanced Reasoning, Multimodality, Long Context, and Next Generation Agentic Capabilities” *arXiv preprint arXiv:2507.06261*, 2025. [Blog Paper](#).
- P4** Gemini Robotics Team. “Gemini Robotics: Bringing AI into the Physical World” *arXiv preprint arXiv:2503.20020*, 2025. [Blog Paper](#).
- P3** Gemini Robotics Team. “Gemini Robotics 1.5: Pushing the Frontier of Generalist Robots with Advanced Embodied Reasoning, Thinking, and Motion Transfer” *arXiv preprint arXiv:2510.03342*, 2025. [Blog Paper](#).
- P2** Gemini Robotics Team. “Evaluating Gemini Robotics Policies in a Veo World Simulator” *arXiv preprint arXiv:2512.10675*, 2025. [Website Paper](#).
- P1** Robert Verkuil*, Ori Kabeli*, [Yilun Du](#), Basile Wicky, Lukas Milles, Justas Dauparas, David Baker, Sergey Ovchinnikov, Tom Sercu, Alexander Rives. “Language Models Generalize Beyond Natural Proteins” *bioRxiv preprint*, 2022. [Paper](#).

Theses

- T1** [Yilun Du](#). “Learning Generalizable Systems by Learning Composable Energy Landscapes.” Ph.D. thesis, Massachusetts Institute of Technology, 2024.

Invited Talks

RSS Workshop on Diffusion Models for Robot Learning	Jul 2026
Model-Based Decision-Making with Diffusion Models	
RSS Workshop on Foundation Models and Planning	Jul 2026
Planning with World Models	

CVPR Workshop on Embodied Reasoning in Action Embodied Reasoning with World Models	Jun 2026
CVPR Workshop on Embodied Intelligence Robot Manipulation through World Models	Jun 2026
CVPR Workshop on Generative Models in Computer Vision Scene Understanding through Inverse Generative Modeling	Jun 2026
CVPR Workshop on Visual Concepts Compositional Energy-Based Concepts	Jun 2026
CVPR Workshop on GeoFreeNVS: Geometry-Free Novel View Synthesis and Controllable Video Models Unified Generative-Predictive Modeling for 4D Scene Understanding	Jun 2026
CVPR Workshop on Emerging Directions in Data for Multimodal Foundation Models A Very Big Video Reasoning Suite	Jun 2026
CVPR Workshop on Video World Models Robot Manipulation with World Models	Jun 2026
CVPR Workshop on From Labs to Life: Embodied Intelligence in the Wild Embodied Intelligence with World Models	Jun 2026
Brown University Workshop on Agentic Scientific Computing and Scientific Machine Learning Multiagent Scientific Reasoning Systems	May 2026
Oregon State University Building Embodied Intelligence with Compositional World Models	Jan 2026
NeurIPS Workshop on Embodied World Models Building Intelligent Robots with World Models	Dec 2025
NeurIPS Tutorial on Beyond Autoregressive Models Autoregressive World Models	Dec 2025
MIT FutureTech AI Automation with Generative World Models	Nov 2025
Amazon Robotics Robot Manipulation with World Models	Nov 2025
Tufts ECE Seminar Learning Compositional Models of the World	Sep 2025
NVIDIA Multiagent Reasoning with Language Models	Aug 2025
Toyota Research Institute ML and Robotics Seminar Flexible Decision-Making with Compositional Constraints	Aug 2025
Meta MRS AI Seminar Multiagent Reasoning with Language Models	Jul 2025
Microsoft Research Seminar on Sampling and Generative Models Inference-Time Reasoning with Generative Models	Jul 2025
ICML Workshop on Multiagent Systems Multiagent Language Model Reasoning Systems	Jul 2025
CVPR Tutorial on Continual Robot Learning from Humans Continual Robot Learning with Compositional Generative Models	Jun 2025

RSS Workshop on Leveraging Foundation Models for Interactive Robot Learning Scaling Robot Learning with Video Models	Jun 2025
CVPR Tutorial on Robotics 101: An Odyssey from a Vision Perspective Learning Compositional Models of the World	Jun 2025
CVPR Workshop on 3D-LLM/VLA Building 4D Models of the World	Jun 2025
CVPR Workshop on Foundation Models Meet Embodied Agents Learning Compositional Models of the World	Jun 2025
ICRA Workshop on Foundation Models and Neuro-Symbolic AI for Robotics Generalizable Foundation Models through Compositional Generation	May 2025
New England NLP Symposium Constructing Generalizable Multimodal Models through Compositional Generation	Apr 2025
Weizmann AI and Vision Seminar Learning Compositional Models of the World	Mar 2025
Shanghai AI Lab Learning Compositional Models of the World	Nov 2024
Generalizing Outside the Training Distribution through Compositional Generation <i>2024:</i> UCLA (Nov); KAIST (Oct); Vanderbilt Machine Learning (Sep); NUS Tea Time (Jul); CMU MLD, University of Michigan CSE, UT Austin, UBC, Princeton, and Brown (Apr); NYU, Columbia, UPenn, University of Washington, Georgia Tech, University of Toronto, and Harvard (Mar); UCSD and Boston Dynamics AI Institute (Feb); ASU Frontiers in GenAI Seminar and Genesis Therapeutics (Jan). <i>2023:</i> JHU, KAIST, and CMU AI Seminar (Nov); Brown University Robotics Seminar, Cornell University Robotics Seminar, UC Berkeley, and UT Austin (Oct); Stanford Vision Seminar (Jul).	2023–2024
ICML Workshop on Multimodal Foundation Models in Embodied AI Compositional Foundation Models	Jul 2024
RSS Workshop on Semantic Reasoning and Goal Understanding in Robotics Panelist	Jul 2024
RSS Workshop on GenAI and HRI Building Customizable Generative Models through Compositional Generation	Jul 2024
NeurIPS Tutorial on Language Models Meet World Models Panelist	Dec 2023
Learning a Visual Imagination BuzzRobot	Dec 2023
Towards Multi-AI Intelligent Systems University of Tokyo, IRCN Keynote Speech	Oct 2023
Eye on AI Podcast AI Self-Improvement from Multiagent Debate	Oct 2023
Riding the Wave of Generative Modeling for Decision-Making University of Montreal, Robot Learning Seminar	Oct 2023
Planning with Diffusion Models Donders Institute (Feb 2023); DeepMind (Aug 2022)	2022–2023

Implicit Learning with Energy-Based Models Nuro (Oct); Tencent (Sep); CMU (Aug)	2022
Generally Intelligent Podcast Modularity and Energy-Based Models	Nov 2021

Professional Service

Conference Area Chair

Robotics Science and Systems (RSS)	2026
Neural Information Processing Systems (NeurIPS)	2026
International Conference in Machine Learning (ICML)	2026
International Conference in Learning Representations (ICLR)	2025-26
Conference on Robot Learning (CoRL)	2025-26
Conference on Language Modeling (CoLM)	2025-26
International Conference in Computer Vision (ICCV)	2025

Conference Refereeing

Neural Information Processing Systems (NeurIPS)	2021-25
International Conference in Machine Learning (ICML)	2021-25
International Conference in Learning Representations (ICLR)	2021-24
Computer Vision and Pattern Recognition (CVPR)	2021-23
International Conference in Computer Vision (ICCV)	2021,23
European Conference in Computer Vision (ECCV)	2022
Special Interest Group in Graphics (SIGGRAPH)	2022-24
SIGGRAPH Asia	2024
Conference on Robot Learning (CoRL)	2023-24
Robotics: Science and Systems (RSS)	2023
International Conference on Robotics and Automation (ICRA)	2022-23
International Conference on Intelligent Robots and Systems (IROS)	2022-23

Workshop Organization

Workshop on Memory in Foundation Models at CoRL	Dec 2026
Workshop on Compositional Learning at CoRL	Dec 2026
Workshop on Embodied Spatial Reasoning at NeurIPS	Dec 2026
Workshop on Compositional Learning in the Era of Scaling in Robotics at IROS	Oct 2026
Workshop on Tactile Sensing for Robotic Foundation Models at RSS	July 2026
Workshop on Compositional Learning at ICML 2026	July 2026
Workshop on 3D-LLM/VLA at CVPR 2026	June 2026
Workshop on World Models Meet Active Sensing and Closed-Loop Planning at CVPR 2026	June 2026
Workshop on Multi-Agent Robotic Systems at CVPR 2026	June 2026
Workshop on Robotics World Modeling at CoRL 2025	Sep 2025
Workshop on Robot Planning in the Era of Foundation Models at RSS 2025	June 2025
Workshop on World Models in Physical World at ICML 2025	June 2025
Workshop on Multi-Agent AI in the Real World at AAAI 2025	March 2025
Workshop on Compositional Learning at NeurIPS 2024	Dec 2024
Workshop on Safe Generative AI at NeurIPS 2024	Dec 2024
Workshop on Geometric and Algebraic Structure in Robot Learning at RSS 2024	July 2024

Generative Models for Decision Making Workshop at ICLR 2023	May 2024
Foundation Models for Decision Making Workshop at NeurIPS 2023	Dec 2023
Foundation Models for Decision Making Workshop at NeurIPS 2022	Dec 2022

Seminar Organization

MIT Embodied Intelligence Seminar	2021-2023
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