

Shaofeng Yin

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EDUCATION

Tsinghua University

Sept. 2022 – Present

B.S. Information and Computing Science; GPA: 3.953/4.0; Major GPA: 4.0/4.0; Rank: 1/30

PUBLICATIONS & PREPRINTS

- [1] **Shaofeng Yin***, Yanjie Ze*, Hong-Xing Yu, C Karen Liu, and Jiajun Wu. Visualmimic: Visual humanoid loco-manipulation via motion tracking and generation. *arXiv preprint arXiv:2509.20322*, 2025.
- [2] Jialong Wu, **Shaofeng Yin**, Ningya Feng, and Mingsheng Long. RLVR-World: Training World Models with Reinforcement Learning. *Advances in Neural Information Processing Systems*, 2025.
- [3] **Shaofeng Yin***, Jialong Wu*, Siqiao Huang, Xingjian Su, Xu He, Jianye Hao, and Mingsheng Long. Trajectory World Models for Heterogeneous Environments. In *Proceedings of the 42nd International Conference on Machine Learning (ICML)*, 2025.
- [4] Jialong Wu*, **Shaofeng Yin***, Ningya Feng, Xu He, Dong Li, Jianye Hao, and Mingsheng Long¹ iVideoGPT: Interactive VideoGPTs are Scalable World Models. In *Advances in Neural Information Processing Systems*, 2024.

RESEARCH EXPERIENCE

VisualMimic | Advisor: Karen Liu & Jiajun Wu | Stanford University

Feb.2025 – Sept.2025

- A sim-to-real **visual** whole-body control framework for **humanoid loco-manipulation**.
- Accomplish a wide range of loco-manipulation tasks such as box lifting, pushing, football dribbling, and kicking.
- Policies generalize robustly to **outdoor environments**.

RLVR-World | Advisor: Mingsheng Long | Tsinghua University

Feb.2025 – June.2025

- Propose RLVR-World, a framework to directly optimize world models for task-specific metrics via reinforcement learning with verifiable rewards (RLVR).
- Model world transitions as **tokenized sequence prediction** with rewards based on decoded outputs.
- Achieve strong gains on **language** and **video** world models across text games, web navigation, and robot manipulation.

TrajWorld | Advisor: Mingsheng Long | Tsinghua University

Sept.2024 – Feb.2025

- Try to answer the question: Can we **transfer dynamics knowledge** from other morphologies?
- Pre-train on a total of 1.3 million trajectories from heterogeneous environments
- Demonstrate favorable zero-shot generalization and significant pre-training advantages on **downstream tasks** like Off-Policy evaluation and Model Predictive Control.

Stiffness-Aware Dynamics Modeling | Advisor: Guanya Shi | Carnegie Mellon University

July.2024 – Aug.2024

- Aim to improve **physical interaction modeling in high-stiffness regions**, which are critical for **agile control**.
- Achieve stiffness-awareness by incorporating a variance threshold into the Model Predictive Control framework.
- Develop an **accurate model in stiff regions for Go2 control**

iVideoGPT | Advisor: Mingsheng Long | Tsinghua University

Sept.2023 – June.2024

- Answer the question: How can we leverage the **advancements in scalable video generative models** for developing **interactive visual world models**?
- Achieve **step-level interactivity** via next-token prediction.
- Pre-train on a total of 1.4 million **robot manipulation trajectories**.
- Develop compressive tokenization method to enable memory savings during training and faster rollouts during generation.

¹* indicates equal contribution.

HONORS

SenseTime Scholarship <i>Top 30 undergraduates in China</i>	June. 2025
Scholarship for Excellence in All Aspects <i>University Scholarship</i>	Oct. 2023, Oct. 2024
Spark Scientific and Technological Innovation Fellowship (top 1% in university) <i>Fellowship</i>	May. 2024
The First Prize of (National) Regional College Students' Physics Contest <i>Contest</i>	Dec. 2023
Scholarship for Excellence in Academic Performance <i>University Scholarship</i>	Oct. 2023

SKILLS

Languages: Proficient in C++, Python, and SystemVerilog. Experienced with PyTorch and JAX.
Maths: Familiar with mathematics analysis, measure theory, linear algebra, abstract algebra, probability theory, statistics, causal inference, and discrete mathematics
TOEFL Score: 108 (Speaking 23)