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] Jialong Wu, **Shaofeng Yin**, Ningya Feng, and Mingsheng Long. RLVR-World: Training World Models with Reinforcement Learning. *arXiv preprint arXiv:2505.13934*, 2025.

[2] **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.

[3] Jialong Wu*, **Shaofeng Yin***, Ningya Feng, Xu He, Dong Li, Jianye Hao, and Mingsheng Long[1] iVideoGPT: Interactive VideoGPTs are Scalable World Models. In *Advances in Neural Information Processing Systems*, 2024.

RESEARCH EXPERIENCE

Humanoid Control | *Advisor: Karen Liu & Jiajun Wu| Stanford University*   Feb.2025 – Present

- Ongoing research project.

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 locomotion 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.

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[1]* indicates equal contribution.

HONORS

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