HUAYU CHEN

chendrag.github.io ⋄ chenhuay17@gmail.com

EDUCATION & EXPERIENCE

Tsinghua University, *Beijing, China*　　　　　　　　　　　　　　*Aug, 2021 - Jul, 2026*

    * PhD Candidate in Computer Science and Technology. Advisor: Prof. **Jun Zhu**

    * Interest: Reinforcement Learning, Generative Models, Machine Learning.

NVIDIA, *Santa Clara, USA*　　　　　　　　　　　　　　　　　*Jan, 2025 - July, 2025*

    * Research Intern at Deep Imagination Group. Manager: **Ming-yu Liu** (VP of Research)

    * Work on large-scale RL training of LLM/VLM models. Core contributor for **Cosmos-Reason1**.

Tsinghua University, *Beijing, China*　　　　　　　　　　　　　　*Aug, 2017 - Jul, 2021*

    * Bachelor in Automation Engineering

HIGHLIGHT

* indicates co-first authors

- **Huayu Chen**, Kaiwen Zheng, Qinsheng Zhang, Ganqu Cui, Yin Cui, Haotian Ye, Tsung-Yi Lin, Ming-Yu Liu, Jun Zhu, Haoxiang Wang. *Bridging Supervised Learning and Reinforcement Learning in Math Reasoning.* Preprint. (Large-scale RL training on Qwen-32B models with 1000+ H100 GPU cards.)

- **Huayu Chen**, Hang Su, Peize Sun, Jun Zhu. *Toward Guidance-Free AR Visual Generation via Condition Contrastive Alignment.* (**ICLR 2025**, Oral, $\sim 1.8\%$). (RL significantly boosts performance of visual AR generative models such as VAR and LlamaGen.)

- **Huayu Chen***, Kai Jiang*, Kaiwen Zheng, Jianfei Chen, Hang Su, Jun Zhu *Visual Generation Without Guidance.* (One unified algorithm to remove CFG for all AR/Masked/Diffusion models, without performance loss.)(**ICML 2025**).

- Jiayi Weng*, **Huayu Chen***, Dong Yan, Kaichao You, Alexis Duburcq, Minghao Zhang, Yi Su, Hang Su, and Jun Zhu. ***Tianshou: A Highly Modularized Deep Reinforcement Learning Library.*** Journal of Machine Learning Research (**JMLR**), 23.267(2022):1-6. (7.8k stars on GitHub)

SELECTED PUBLICATIONS

- Kaiwen Zheng, Yongxin Chen, **Huayu Chen**, Guande He, Ming-Yu Liu, Jun Zhu, Qinsheng Zhang *Direct Discriminative Optimization: Your Likelihood-Based Visual Generative Model is Secretly a GAN Discriminator.* (**ICML 2025**, Spotlight, $\sim 2.6\%$).

- Songming Liu, Lingxuan Wu, Bangguo Li, Hengkai Tan, **Huayu Chen**, Zhengyi Wang, Ke Xu, Hang Su, Jun Zhu. ***RDT-1B: a Diffusion Foundation Model for Bimanual Manipulation.*** (**ICLR 2025**).

- **Huayu Chen**, Kaiwen Zheng, Hang Su, Jun Zhu. *Aligning Diffusion Behaviors with Q-functions for Efficient Continuous Control.* (**NeurIPS 2024**) .

- **Huayu Chen**, Guande He, Lifan Yuan, Ganqu Cui, Hang Su, Jun Zhu. *Noise Contrastive Alignment of Language Models with Explicit Rewards.* (**NeurIPS 2024**).

- **Huayu Chen**, Cheng Lu, Zhengyi Wang, Hang Su, and Jun Zhu. *Score regularized policy optimization through diffusion behavior.* (**ICLR 2024**) .

- Cheng Lu*, **Huayu Chen***, Jianfei Chen, Hang Su, Chongxuan Li, and Jun Zhu. *Contrastive Energy Prediction for Exact Energy-Guided Diffusion Sampling.* (**ICML 2023**) .

- **Huayu Chen**, Cheng Lu, Chengyang Ying, Hang Su, and Jun Zhu. *Offline Reinforcement Learning via High-Fidelity Generative Behavior Modeling.* (**ICLR 2023**) .

COMPETITIONS

First place in Tencent's multi-agent RL competition of HoK (Team Leader, 1/70+)	2022-2023
* Two times in a row. Final winrate: 99.8%. Total prize: ¥450,000	
Second place in DJI's Robomaster Sim2Real Challenge at ICRA (Team Leader, 2/130+)	2022
First place in the 30th International Design Contest (IDC Robocon, MIT)	2019
First Prize in the 35th China Regional College Students Physics Competition	2018
First Prize in the 33th National Physics Olympiad	2016

HONORS & AWARDS

HUAWEI-Tsinghua Scholarship	2023
'84' Future Innovation Scholarship (¥50,000 Award)	2022
Outstanding Undergraduate in Beijing (Top 2%)	2021
BaoGang Scholarship	2021
China National Scholarship	2019
Excellence Award for Technological Innovation, Tsinghua University	2018, 2019
"129" Scholarship (Highest honor for 2nd year students at Tsinghua)	2018

SERVICES

- Teaching Assistant in *Statistical Learning Theory and Applications* 2023 Spring

- Reviewer: ICLR, NeurIPS, ICML, AAAI, AISTATS 2022-

- President of *Student Association of Science & Technology* at Dept. of Automation 2020-2021