Sunli Chen — Curriculum Vitae

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Education

University of Massachusetts Amherst — **MA, United States**
PhD in Computer Science — *Sep 2024–now*
Supervised by Prof. Chuang Gan

Yao Class, IIIS, Tsinghua University — **Beijing, China**
Bachelor of Engineering in Computer Science, GPA 3.86/4.00 — *Sep 2020–Jul 2024*
I ranked 12 nationalwide in programming in 2018, which granted me admission to Yao Class, one of the best undergraduate programs in China.

Massachusetts Institute of Technology — **Cambridge, Massachusetts**
Visiting student — *Jan 2023–Dec 2023*
Research in embodied AI and LLMs, advised by Prof. Joshua B. Tenenbaum and Prof. Chuang Gan.

Research (*denotes equal contribution)

My research goal is to build general world models that can perceive, understand and reason over the present, while providing thoughtful insights about the future. I believe a plausible way to achieve this is by combining language, vision, decision-making models and/or video generation models.

HAZARD Challenge: Embodied Decision Making in Dynamically Changing Environments — **ICLR 2024**
Sunli Chen, Qinhong Zhou*, ..., Yilun Du, Joshua B. Tenenbaum, Chuang Gan*
We built 'HAZARD', a new dynamic benchmark and dataset for embodied AI on top of physics simulator 'ThreeDWorld' and designed an LLM-based agent to test against it.

Iteratively Learn Diverse Strategies with State Distance Information — **NeurIPS 2023**
Wei Fu, Weihua Du, Jingwei Li, Sunli Chen, Jingzhao Zhang, Yi Wu
We proposed a novel RL algorithm 'SIPO' based on state distance to continuously discover diverse strategies.

Improving Reinforcement Learning from Human Feedback with Efficient Reward Model Ensemble — **ACL 2024 submission**
Shun Zhang, Sunli Chen, Yikang Shen, Zhiqing Sun, Chuang Gan
We used an ensemble reward model with conservative estimation to improve RL fine-tuning performance in smaller models.

COMBO: Compositional World Models for Embodied Multi-Agent Cooperation — **ICLR 2025 Submission**
Hongxin Zhang, Zeyuan Wang, Qiushi Lyu, Zheyuan Zhang, Sunli Chen, Tianmin Shu, Yilun Du, Behzad Dariush, Kwonjoon Lee, Chuang Gan

We developed a new embodied task and proposed a method with compositional diffusion model as a world model to solve it.

- **SOK-Bench: A Situated Video Reasoning Benchmark with Aligned Open-World Knowledge** **CVPR 2024**
  Andong Wang, Bo Wu*, Sunli Chen*, Zhenfang Chen, Haotian Guan, Wei-Ning Lee, Li Erran Li, Chuang Gan*
  We created a Video-QA benchmark to evaluate Video-LLMs' situated reasoning abilities. We designed a novel algorithm to effectively generate QA pairs from video annotation and knowledge graphs using LLM.

Selected Awards

ICPC 2021 Asia EC-Final Gold Medalist, 2nd place **Xi'an, China**
Trio-teamed programming contest (delayed to 2022), qualified for World Finals *2022*

ICPC 2022 Asia Kunming Regional Gold Medalist, 1st place **Beijing, China**
Online trio-teamed programming contest *2022*

ICPC 2020 Asia Shanghai Regional Gold Medalist, 3rd place **Beijing, China**
Online trio-teamed programming contest *2020*

ICPC 2020 Asia Xiaomi Invitational Gold Medalist, 1st place **Beijing, China**
Online trio-teamed programming contest *2020*

Scholarship of Science and Innovation in IIIS **Beijing, China**
Outstanding in academic competitions and research *2022*

Scholarship of Study in IIIS **Beijing, China**
Outstanding in school courses and GPA, top 20% *2022*

Scholarship of Mr and Mrs Huang Yicong in Tsinghua **Beijing, China**
General excellence award, top 20% *2023*

Award of Excellent Club Manager **Beijing, China**
Manager of the IIIS table-tennis club *2022*

National Olympics in Information (China) Gold Medalist, 12th place **Changsha, China**
Top 50 go in national training team with automatic college admission *2018*

Language and Skills

- Chinese as native language, fluent English with 111 in TOEFL, 327 in GRE.
- Strong programming & development skills in python, C++.
- Research experience in RL, embodied AI, LLM and computer vision.