

# Sunli Chen — Curriculum Vitae

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## Education

- **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 nationwide 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 until Aug 2023, remote since then* *Jan 2023–Now*  
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 agents that can perceive, understand and reason over the world. I believe a plausible way to achieve this is by combining language, vision and decision-making models.

- **HAZARD Challenge: Embodied Decision Making in Dynamically Changing Environments**  
○ *Sunli Chen\**, Qinhong Zhou\*, Yisong Wang, Haozhe Xu, Weihua Du, *Submitted to ICLR 2024*  
Hongxin Zhang, Yilun Du, Joshua B. Tenenbaum, Chuang Gan *review scores 8,8,6,5*  
We built 'HAZARD', a new dynamic benchmark and dataset for embodied AI on top of physics simulator 'Three-DWorld' and designed an LLM-based agent to test against it. See [openreview.net/forum?id=n6mLhaBahJ](https://openreview.net/forum?id=n6mLhaBahJ)
- **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**  
○ *Shun Zhang, Sunli Chen, Yikang Shen, Zhiqing Sun, Chuang Gan* *Submitted to NAACL 2024*  
We used an ensemble reward model with conservative estimation to improve RL fine-tuning performance in smaller models.
- **SOK-Bench: A Situated Video Reasoning Benchmark with Aligned Open-World Knowledge**  
○ *Andong Wang\*, Bo Wu\*, Sunli Chen\*, Zhenfang Chen, Haotian Guan, Submitted to CVPR 2024*  
*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 (delayed)* *2022*

<b>ICPC 2022 Asia Kunming Regional Gold Medalist, 1st place</b> <i>Online trio-teamed programming contest</i>	<b>Beijing, China</b> 2022
<b>ICPC 2020 Asia Shanghai Regional Gold Medalist, 3rd place</b> <i>Online trio-teamed programming contest</i>	<b>Beijing, China</b> 2020
<b>ICPC 2020 Asia Xiaomi Invitational Gold Medalist, 1st place</b> <i>Online trio-teamed programming contest</i>	<b>Beijing, China</b> 2020
<b>Scholarship of Science and Innovation in IIIS</b> <i>Outstanding in academic competitions and research</i>	<b>Beijing, China</b> 2022
<b>Scholarship of Study in IIIS</b> <i>Outstanding in school courses and GPA, top 20%</i>	<b>Beijing, China</b> 2022
<b>Scholarship of Mr and Mrs Huang Yicong in Tsinghua</b> <i>General excellence award, top 20%</i>	<b>Beijing, China</b> 2023
<b>Award of Excellent Club Manager</b> <i>Manager of the IIIS table-tennis club</i>	<b>Beijing, China</b> 2022
<b>National Olympics in Information (China) Gold Medalist, 12th place</b> <i>Top 50 go in national training team with automatic college admission</i>	<b>Changsha, China</b> 2018

## Language and Skills

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- 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.