

Kaiyuan Liu

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  Scholar
  in Kaiyuan Liu

Education


B.S. University of Washington, Seattle	2022 ~2026
Double Major: Computer Science, Mathematics	
<ul style="list-style-type: none"> GPA: 3.9/4.0; Honor Math Sequence; Deans List Departmental Honors in Computer Science 	

Awards

ICPC World Final Honor , ICPC Foundation	2024.09
CRA Undergraduate Research Award Nomination , University of Washington (Top 4 nominees University-wide)	2025.09
Shenoy Undergraduate Research Fellowship , Simons Foundation	2024 ~2025
ICPC North American Championship 12th Place , ICPC Foundation	2024.05
UW Winter Programming Contest Champion , University of Washington	2023 ~2024
CSE Award for Excellence Scholarship , University of Washington	2024 ~2025

Publications

LiveCodeBench Pro: How Do Olympiad Medalists Judge LLMs in Competitive Programming?

Zihan Zheng*, Zerui Cheng*, Zeyu Shen*, Shang Zhou*, **Kaiyuan Liu***, *et al.* *Equal contribution
The Thirty-Ninth Annual Conference on Neural Information Processing Systems (NeurIPS 2025)
arxiv.org/abs/2506.11928 

Evaluating LLM Agents as Human Simulators in Climate Social Dilemmas

Kaiyuan Liu*, Xiaoxuan Hou*, Jiayi Yuan, Natasha Jaques *Equal contribution
 Under review at AAAI 2026

AutoCode: LLMs as Problem Setters for Competitive Programming

Shang Zhou*, Zihan Zheng*, **Kaiyuan Liu***, *et al.* *Equal contribution
arxiv.org/abs/2510.12803 
 Under review at ICLR 2026

Experience

Social RL Lab , Research Assistant	Seattle, WA
<ul style="list-style-type: none"> Working on various projects related to multi-agent, reinforcement learning, and large language models. Mentored by Dr. Natasha Jaques. 	2024.09 ~Present
Allen Institute , Research Assistant	Seattle, WA
<ul style="list-style-type: none"> Applied Deep Learning and Reinforcement Learning to analyze representations from artificial models and neural data from Multi-Armed Bandit mouse foraging tasks. Explored brain representations and dynamics in decision making 	2024.09 ~2025.05
VecML , Machine Learning Engineer	Seattle, WA
<ul style="list-style-type: none"> VecML is a startup company focusing on Machine Learning System Infrastructure. Tested and developed vector databases for Retrieval-Augmented Generation. Designed and implemented an Memory-Disk Hybrid Architecture for fast Top-K 	2024.06 ~2024.09

Nearest Neighborhood Search

University of Washington, Teaching Assistant

Seattle, WA
2023 ~2024

- Assisted in undergraduate algorithm courses for both major (CSE 421) and non-major (CSE 417) students.
- Served as leading TA in CSE 421 2024 Winter.

Professional Service

Reviewer, NeurIPS Workshop 2025, AAAI 2026, AAMAS 2026

ICPC Coach, University of Washington ICPC 2026

Projects

Fine-grained Chinese Toxic Language Detection

NLP

- Reimplemented and improved Chinese toxic language classifier based on BERT
- Authored technical poster and report

Multi-Agent Reinforcement Learning Survey

RL

- Conducted literature review on MARL algorithms, especially in games.

Variational Autoencoder for Neural Data

DL

- Implemented VAE model for analyzing high-dimensional neural data

Technologies

Languages: Python, PyTorch, JAX, C++, Java, TypeScript, \LaTeX

Databases: MySQL, NoSQL, PostgreSQL, SQLite, Azure

Topics: Algorithm Design, Reinforcement Learning, Machine Learning, NLP, Computational Neuroscience

Languages: English, Chinese (Mandarin)