

Kaiyuan Liu

📍 Seattle 📩 lky04@cs.washington.edu 🌐 kaiyuanliu04.github.io 📚 Scholar 💬 Kaiyuan Liu

Education

B.S. University of Washington, Seattle	2022 ~2026
Double Major: Computer Science, Mathematics	
• 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
• Working on various projects related to multi-agent, reinforcement learning, and large language models.	2024.09 ~Present
• Mentored by Dr. Natasha Jaques.	
Allen Institute , Research Assistant	Seattle, WA
• 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
• VecML is a startup company focusing on Machine Learning System Infrastructure.	2024.06 ~2024.09
• Tested and developed vector databases for Retrieval-Augmented Generation.	
• Designed and implemented an Memory-Disk Hybrid Architecture for fast Top-K	

Nearest Neighborhood Search

University of Washington, Teaching Assistant

- 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.

Seattle, WA

2023 ~2024

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, L^AT_EX

Databases: MySQL, NoSQL, PostgreSQL, SQLite, Azure

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

Languages: English, Chinese (Mandarin)