Jianhao Huang

jhhuang2025@cs.ucla.edu

Education

University of California, Los Angeles — Los Angeles, United States
Ph.D. student in Computer Science — *Sept. 2025 - Present*

- Advised by Prof. Baharan Mirzasoleiman
- Research in Machine Learning

Shanghai Jiao Tong University — Shanghai, China
B.E. in Computer Science — *Sept. 2021 - Jun. 2025*

- Member of ACM Honors Class, an elite CS program for top 5% talented students
- Advised by Prof. Junchi Yan; Research in Graph Learning

Research Internships

New York University — New York, New York, United States
Co-advised by Prof. Jinyang Li and Prof. Aurojit Panda — *Jul. 2024 - Dec. 2024*

- Research in Distributed Systems

Princeton University — Princeton, New Jersey, United States
Advised by Prof. Jason D. Lee — *Apr. 2024 - Dec. 2024*

- Research in Machine Learning Theory

Publications

* means equal contribution.

Scaling Point-based Differentiable Rendering for Large Scale 3D Reconstruction.
In submission.

Transformers Learn to Implement Multi-step Gradient Descent with Chain of Thought.
***Jianhao Huang**, *Zixuan Wang, Jason D. Lee*

- Accepted at **ICLR 2025** (**spotlight, 5.1%**).
- We proved the local convergence of running gradient flow on the population chain of thought (CoT) loss under mild assumptions and established, for the first time, the learnable separation between transformers with and without CoT in the in-context linear regression setting.

On Designing General and Expressive Quantum Graph Neural Networks with Applications to MILP Instance Representation.
*Xinyu Ye, Hao Xiong, **Jianhao Huang**, Ziang Chen, Jia Wang, Junchi Yan*

- Accepted at **ICLR 2025**.

Projects

RISC-V CPU Implemented in Verilog RTL
SJTU ACM Class Computer Architecture I 2022 Assignment (CS2951@SJTU Course Project)
Designed and implemented a Tomasulo RISC-V CPU with iCache, achieving **top performance** in ACM Class 2021.

Compiler for Mx* Language
SJTU ACM Class Compiler Design and Implementation 2022 Assignment (CS2966@SJTU Course Project)
Implemented a compiler from Mx* language (C++/Java-like) to RV32I Assembly.

A Naive Linux System
SJTU ACM Class Computer Architecture II 2022 Assignment (CS2952@SJTU Course Project)
Built a naive Linux system without a file system in C++.

Honors & Awards

Scholarship

- Zhiyuan Honorary Scholarship (Top **2%** @ SJTU, 2021–2024)
- 2022 Zhiyuan Leaders Scholarship @ SJTU

Teaching

Programming (CS1953@SJTU) Fall 2022
Principle and Practice of Computer Algorithms (CS1952@SJTU) Summer 2023
Data Structure (CS1951@SJTU) Fall 2023
Probability (MATH2701@SJTU) Spring 2024

Service

Reviewer for **ICLR 2025**, **ICLR 2026**

Technical Skills

Languages: Mandarin (native), English (fluent).
Programming Languages: Proficient in C/C++, Python, Java, and Verilog.