Yuxiang Wan

📍 University of Illinois Urbana-Champaign   ✉ ywan18@illinois.edu   🌐 Website

in LinkedIn   ⌾ GitHub

Education

University of Illinois at Urbana-Champaign, B.S. in Computer Engineering   *Sep. 2023 – May 2027*
GPA: 4.00/4.00

Zhejiang University, B.E. in Electrical and Computer Engineering   **GPA:**   *Sep. 2023 – May 2027*
3.955/4.0, Rank: **1**/70

Research Experience & Interest

My research interests lie in improving the **reasoning and generalization capabilities of large language models**, with a focus on structured knowledge integration (e.g., graph-based representations) in in-context learning. Motivated by this experience, I am increasingly interested in the systems challenges behind scaling such models, particularly **efficient inference and ML systems support for interactive settings such as reinforcement learning and multi-agent learning**.

Research Intern, AI-Net Lab, Zhejiang University Advisors: Yifei Sun, Yang Yang   *Jun. 2024 – Apr. 2025*
- Conducted a systematic literature review on in-context learning and graph-based representation learning, leading to the formulation of a graph-structured example selection framework.
- Designed and implemented experiments: leveraged graph structures and **PageRank-based example selection** with multi-level encoding (node, path, subgraph), achieving **2.74% improvement** over SOTA
- Drafted and revised a research paper; conducted extensive experiments and analysis during rebuttal.

Projects

ECE 391: UNIX-like Operating System Kernel   *C, RISC-V Assembly*   *Fall 2025*
- Built a UNIX-like OS kernel on RISC-V from scratch: implemented **Sv39 virtual memory** (3-level page tables, demand paging), process abstraction (fork, exec), and preemptive multitasking with round-robin scheduling
- Developed VIRTIO block device driver and **KTFS filesystem** with 64-block write-back cache, supporting CRUD operations, indirect/doubly-indirect block addressing, and persistent storage
- Implemented 15+ system calls (fork, exec, read, write, pipe, etc.) and a **functional shell** with I/O redirection and piping; wrote Unix utilities (cat, ls, wc, xargs) for command-line interaction

Selected Honors and Awards

2024, 2025	**National Scholarship**, Ministry of Education of China (Top 1%)
2024, 2025	**Dean's List**, University of Illinois at Urbana-Champaign
2025	**First Prize Scholarship for Academic Excellence**, ZJUI
2021, 2022	**First Prize**, China Southeast Mathematical Olympiad (CSMO)

Selective Coursework

- CS 225: Data Structures (A+)
- ECE 391: Computer Systems Engineering (A+)
- ECE 313: Probability with Engrg Applic (A+)
- CS 411: Database Systems (A)
- ECE 310: Digital Signal Processing (A+)
- ECE 498: Deep Generative Models (A+)

Teaching Experience

Teaching Assistant, ECE 220: Computer Systems & Programming   *Spring 2025*
- Led office hours and discussion sessions for 300+ students; provided guidance on C programming and debugging
- Refactored and automated autograder scripts, reducing grading time and improving feedback efficiency

Teaching Assistant, MATH 257: Linear Algebra   *Fall 2024*
- Conducted weekly problem-solving sessions for 100+ students; organized comprehensive final review session