Zijin Wan

(951) 548-4355 — zwan019@ucr.edu — https://www.linkedin.com/in/zijin-wan-5ab6b2216/

Education

University of California, Riverside — **Expected August 2027**
Ph.D. in Computer Science — *Cumulative GPA: 3.89/4.0*
Advisors: Prof. Yan Gu and Prof. Yihan Sun

Xidian University — **2018 – 2022**
Bachelor in Software Engineering — *Cumulative GPA: 3.7/4.0*

Project and Research Experience

University of California, Riverside — **Dec 2021 – Present**
Research Assistant

- **Parallel Contraction Hierarchies:** Proposed a parallel algorithm for constructing contraction hierarchies, one of the most widely used shortest path algorithms. Implemented the algorithm, achieving an average 10× speedup over the state-of-the-art (SOTA) parallel baseline while maintaining competitive query performance. Published in ICS'23.
  Code: https://github.com/ucrparlay/Parallel-Contraction-Hierarchy
- **Parallel Longest Increasing Subsequence:** Developed a parallel algorithm for LIS with optimal work and non-trivial parallelism. Its implementation achieves a 2.5× speedup over the SOTA parallel baseline. Published in SPAA'23.
  Code: https://github.com/ucrparlay/Parallel-LIS
- **Parallel Huffman Tree:** Studied and implemented the first publicly available parallel algorithm for constructing huffman tree using C++, achieving 10–20× speedups compared to the SOTA sequential baseline. Published in SPAA'22.
  Code: https://github.com/Easinal/huff_para

Skills

- **Programming:** C, C++, Bash, Python, Java, Bash
- **Systems:** Multithreaded Programming, Distributed Systems, GPU Programming
- **Web:** HTML5, PHP, Typescript, CSS, Angular, JavaScript
- **Misc:** Git, CMake, gdb, Docker, OpenMP, Pandas, Matplotlib, LaTeX
- **Databases:** SQL, MySQL
- **Languages:** English (fluent), Mandarin (native), Japanese (intermediate)

Honors and Awards

- **Best Paper Award** at ICS'25
- **UCR GSA Conference Travel Grants** for SPAA'22 and SPAA'23
- **UCR Dean's Distinguished Fellowship**
- **First Prize (Sole Winner)**, Xidian Exchange Student Scholarship
- **Second Prize Scholarship (top 10%)**, Xidian University
- **National Scholarship (top 1%)**

Publications

- **Parallel Contraction Hierarchies Can Be Efficient and Scalable**
  Zijin Wan, Xiaojun Dong, Letong Wang, Enzuo Zhu, Yan Gu, and Yihan Sun.
  ACM International Conference on Supercomputing (ICS), 2025.
  Best Paper Nomination
- **Parallel Longest Increasing Subsequence and van Emde Boas Trees**
  (in alphabetical order) Yan Gu, Ziyang Men, Zheqi Shen, Yihan Sun, and Zijin Wan.
  ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), 2023.
- **Many Sequential Iterative Algorithms Can Be Parallel and (Nearly) Work-efficient**
  Zheqi Shen, Zijin Wan, Yan Gu, and Yihan Sun.
  ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), 2022.

Teaching Assistantship

- **CS141: Intermediate Data Structures and Algorithms** for Fall 2024
- **CS214: Parallel Algorithms** for Winter 2025
- **CS218: Design and Analysis of Algorithms** for Spring 2023, Winter 2024, Spring 2024, Spring 2025

Professional Services

- *External Reviewer*, Symposium on Algorithm Engineering and Experiments (ALENEX'24)
- *External Reviewer*, Symposium on Parallelism in Algorithms and Architectures (SPAA'23)