

WENQIAN ZHANG

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SUMMARY

Ph.D. Candidate in Computer Science at UNSW, supported by a full Faculty Scholarship (AUD 40k/year). Previously completed an MPhil and Bachelor's degree at UNSW with a focus on large-scale graph data analysis. Demonstrates a strong continuous academic pathway with 3 publications in top-tier conferences (SIGMOD, ICDM). Possesses extensive teaching experience as a Casual Academic at UNSW (2023-Present) and expertise in algorithm design, distributed systems, and C++/Rust/Java programming.

EDUCATION

Ph.D. in Computer Science & Engineering Sep 2025 - Present
The University of New South Wales (UNSW)
Research Topic: Efficient Algorithms for Large-scale Graph Analysis
Achievements: 1) Awarded Faculty of Engineering PhD Scholarship (Fully Funded); 2) UNSW Founders "Top 2 Most Welcoming Demonstration" (2025)

MPhil in Computer Science & Engineering Sep 2023 - Aug 2025
The University of New South Wales (UNSW)
Thesis: Scalable Core Decomposition in Large Networks
Achievements: 1) Published in SIGMOD and ICDM Workshop; 2) Postdoctoral Writing Fellowship awarded by CSE

Bachelor of Science (Computer Science) Sep 2020 - Aug 2023
The University of New South Wales (UNSW)
Graduation with Distinction
Achievements: Dean's List Award 2022 (Top 5% of students)

TEACHING EXPERIENCE (CASUAL ACADEMIC)

UNSW Sydney | Casual Academic (Database Systems) Sep 2023 – Present

- Terms Employed:** Term 3 2023, Term 2 2024, Term 3 2024, Term 2 2025, Term 3 2025, Term 1 2026 (Scheduled).
- Instructed over 500 students per semester in database fundamentals, including SQL, schema design, and query optimization (COMP3311/9311).
- Conducted weekly tutorials/labs, graded assignments, and provided consultation to support student learning outcomes.

UNSW Sydney | Casual Academic (Data Analytics for Graphs) May 2024 – Aug 2025

- Terms Employed:** Term 2 2024, Term 2 2025.
- Taught advanced graph theory and large-scale data processing techniques (COMP9312) to postgraduate students.
- Guided students through complex algorithmic problems and large-scale graph computation projects.

PUBLICATIONS

Nucleus Decomposition Revisited: An Efficient Counting-Based Approach | Accepted - SIGMOD 2026

- First Author.** Proposed the first counting-based nuclear core decomposition algorithm, enabling rapid computation in scenarios previously infeasible with SOTA methods.

Accelerating Core Decomposition in Billion-Scale Hypergraphs | Published - SIGMOD 2025

- First Author.** Improved hypergraph core decomposition efficiency by 7x and reduced memory usage by 36x, enabling processing of billion-scale hypergraphs.

Efficient Distributed Core Graph Decomposition | Published - ICDM Workshop 2023

- **First Author.** Optimized distributed core decomposition algorithms deployed on Spark and Flink via Kubernetes, significantly reducing inter-machine communication.

TECHNICAL SKILLS

Programming: C++, Rust, Java, Python, SQL, Shell, Haskell, LaTeX

Big Data & Systems: Apache Spark, Apache Flink, Kubernetes, Docker, Linux

Languages: English (Professional), Mandarin (Native)