Wen Cheng

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EDUCATION

University of Washington 2025.9 - 2030.6
Ph.D. in Computer Science and Engineering
Advisor: Shyam Gollakota

Nanjing University 2022.9 - 2025.7
M.Sci. in Computer Science (*Admission with Exam Exemption*)
Advisor: Wei Wang

Hefei University of Technology 2018.9 - 2022.7
B.Eng. in Computer Science and Technology

WORKING EXPERIENCE

Microsoft Research Asia 2024.8 - 2024.11
Research Intern in Wireless Group

ByteDance 2022.1 - 2022.5
Software Engineer Intern

PUBLICATIONS

- Security Attack on LLM-based Code Completion Tools
  Wen Cheng, Ke Sun, Xinyu Zhang, Wei Wang
  AAAI (Oral), Feb.2025, PDF, Code
- USee: Ultrasound-based Device-free Eye Movement Sensing
  Wen Cheng, Mingzhi Pang, Haoran Wan, Shichen Dong, Dongxu Liu, Wei Wang
  IEEE SECON (Best Paper Award), Dec.2024, PDF
- QAQ: Quality Adaptive Quantization for LLM KV Cache
  Wen Cheng*, Shichen Dong*, Jiayu Qin, Wei Wang
  ICCV Workshop, Oct.2025, PDF, Code
- DEWS: A Distributed Measurement Scheme for Efficient Wireless Sensing
  Mingzhi Pang, Kaiying Li, Xun Wang, Wei Wang, **Wen Cheng**, Dongxu Liu, Yuqing Yin, Pengpeng Chen
  ACM IMWUT, Nov.2024, PDF
- W2KPE: Keyphrase Extraction with Word-Word Relation
  Wen Cheng, Shichen Dong, Wei Wang
  IEEE ICASSP, June.2023, PDF

PROJECTS

Security Attacks on LLM-based Code Completion Tools Mar.2024 – Aug.2024

- Project lead, involved in the full pipeline from ideation and implementation to paper writing.
- Conduct the first comprehensive security audit of emerging LLM-based code completion tools, designing a standardized workflow and revealing critical vulnerabilities.
- Provide insights into the underlying causes of these security issues and discuss potential defense mechanisms.
- This work was accepted at **AAAI 2025 (Oral)**, released as an open-source project and presented onsite.

Quantization of LLM KV Cache Jan.2024 – June.2024

- Co-led the project; contribute to idea development and implemented part of the codebase.
- Propose one of the core insights and participate in the derivation and formulation of the quantization algorithm.
- Outline the key logical structure of the work and take primary responsibility for writing the paper.
- The work has been accepted at ICCV 2025 Workshop, with cited over 40 times to date.

Pressure Sensing Using IMU and Magnetometer Fusion Jan.2025 – Ongoing

- Co-led the project; design and validate sensor fusion algorithms integrating IMU and magnetometer data for pressure sensing.

- Conduct extensive literature review and contribute to the writing of a related research paper.

Device-free Eye Movement Sensing via Ultrasound Oct.2022 – Nov.2023
- Lead the project and participate in the entire research process.
- First to observe that eye movement significantly influences ultrasound signals, which led to the design of a dedicated signal processing pipeline.
- Reveal the relationship between decomposition residuals and subtle eye movements, introducing a novel method for fine-grained motion sensing.
- This work was accepted at IEEE SECON 2024 and awarded the sole **Best Paper Award**.

Keyphrase Extraction Using Word-Word Relations Jan.2023 – June.2023
- Project lead, developing a novel keyphrase extraction method leveraging word-word relationships to enhance precision.
- Introducing sentence fusion, keyphrase encoding, and a joint loss function to improve extraction robustness.
- Achieved first place in the ICASSP 2023 MUG Challenge with this approach.
- This work was accepted by ICASSP 2023 and presented onsite.

Talks & Presentations
- Talk, AI for All - RAISE Fall Expo by UW and Amazon, Oct.2025
- Oral Presentation, ICCV, Oct.2025
- Oral Presentation, AAAI, Mar.2025
- Oral Presentation, IEEE SECON, Dec.2024
- Oral Presentation, IEEE ICASSP, June.2023
- Technical Share, Ant Group, Mar.2023

SELECTED HONORS
- Microsoft Graduate Fellowship (via Allen School of CSE, University of Washington) – 2025
- Outstanding Master Dissertation of the School of Computer, Nanjing University **(Top 5)** – 2025
- Graduation with Honor: Excellent Master Graduate of Nanjing University – 2025
- IEEE SECON Best Paper Award – 2024
- Graduate China National Award **(Top 1%)** – 2024
- Nanjing University Distinguished Graduate Student – 2023, 2024
- Graduation with Honor: Excellent College Graduate of Anhui Province – 2022
- Undergraduate President Award **(Top 30 of 8000)** – 2022
- Undergraduate China National Award **(Top 1%)** – 2020, 2021
- Provincial Second Prize, China Collegiate Programming Contest (CCPC) – 2020, 2021
- Meritorious Winner, MCM/ICM – 2020

TEACHING EXPERIENCE
- Computer Architecture 2023/2025 Spring
  Teaching Assistant, Nanjing University