

Zicong Tang

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Education

Wuhan University (WHU)

Wuhan, China

School of Computer Science B.S. (Ranked 16th by US News)

September 2022–present

Score&GPA: **94.1**/100, Rank**1**/240; **3.97**/4.00, Rank**1**/240

Core courses: Advanced Mathematics 94 & 100, Linear Algebra 100, Discrete Mathematics 98, Operating Systems 98, Software Design and Architecture 98, Principles of Compiler 98, Advanced Program Language 97, Database Systems 96

Research Area: Large Language Models, Large Vision Language Models, KV Cache Optimization

Publications

CoViPAL: Layer-wise Contextualized Visual Token Pruning for Large Vision-Language Models

- **Zicong Tang**, ZiyangMa, SuqingWang, Zuchao Li, Lefei Xhang, Hai Zhao, Yun Li, Qianren Wang
- Findings of **EMNLP2025**, **first author**.

SpindleKV: A Novel KV Cache Reduction Method Balancing Both Shallow and Deep Layers

- **Zicong Tang**, Luohe Shi, Zuchao Li, Baoyuan Qi, Guoming Liu, Lefei Zhang
- Main conference of **ACL2025**, **first author**.

Research Experience

Layer-wise Contextualized Visual Token Pruning for Large Vision-Language Models

Feb. 2025 - present

Wuhan University, Sigma Lab

Advisor: Zuchao Li

- We are the first to identify inherent redundancy in visual tokens, which is layer-irrelevant.
- We train a compact classifier on a small, negligible dataset and effectively reduce this redundancy.
- Our method reduces decoding time by 60% and prunes 75% of visual tokens, resulting in only a slight performance degradation.

LLM KV Cache Reduction Method Balancing Both Shallow and Deep Layers

Sept. 2024 - Dec. 2024

Wuhan University, Sigma Lab

Advisor: Zuchao Li

- Identify two forms of redundancy in the KV Cache: attention sparsity and KV constitutional similarity, with the former being more pronounced in deep layers and the latter in shallow layers.
- Propose a pioneering method that combines eviction and merging: employ an attention-weight-based eviction method and a codebook-based replacement method to mitigate the layer-wise redundancy and achieve SOTA performance.
- Address a commonly overlooked challenge: our method tackles the issue faced by eviction-based methods when integrating with GQA and achieves surprising performance on GQA models.

Honors and Awards

- **China National Scholarship**, Twice, Top 2% nationwide Oct. 2023 & Oct. 2025
- First-class Scholarship, Triple, Top 5% schoolwide Oct. 2023 & Oct. 2024 & Oct. 2025
- Merit Student, Triple, Top 5% schoolwide Oct. 2023 & Oct. 2024 & Oct. 2025
- Silver Medal, Team Leader, Regional, Chinese Collegiate Computing Competition (4C) Jun. 2024

Projects

CPU Design for RISC-V Instruction Set (Course Project)

Mar. 2024

- Used the Verilog language to design and implement a five-stage pipeline CPU, including IF/ID/EX/MEM/WB stages.
- Implemented the decoding and execution of the RISC-V instruction set, including arithmetic, load/store, branch, etc.

Service & Activities

- Outstanding Youth Volunteer with 132 hours of service, Top 5% of the Computer Department Aug. 2024
- Minister of the Secretariat Department of the Taekwondo Association at Wuhan University Oct. 2023 - present
- Outstanding Teaching Assistant, serve as a teaching assistant for Data Structures. Mar. 2024 - Jun. 2024
- Volunteer teaching Physics and Introduction to AI in a high school in Guizhou Province Jul. 2024 - Aug. 2024