WU Duo

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EDUCATION

PhD. at Tsinghua University
09/2024 - now
- Major: Electronic Information
- Advisor: Prof. Zhi Wang
- Lab: MMLab@SIGS
- Research Group: LLM Agent & Embodied VLA

M.Phil. at The Chinese University of Hong Kong, Shenzhen
09/2022 - 07/2024
- Major: Computer and Information Engineering
- Advisor: Prof. Fangxin Wang
- Lab: FNii - NAIS

B.S. at Jinan University
09/2018 - 07/2022
- Major: Computer Science and Technology
- Advisor: Prof. Lin Cui

RESEARCH

Research Interests: My recent research seeks to advance LLMs as intelligent decision agents for efficient task planning and solving in the open-ended world, with the specific focus on the following research directions: *LLM tool use, multi-agent collaboration, GUI agent, embodied VLA, spatial understanding and perception, LLM for network control.*

Publications:

*Note: Equal contributions are marked by *. Advised students are underlined.*

1. **Duo Wu**, Linjia Kang, Zhimin Wang, Fangxin Wang, Wei Zhang, Xuefeng Tao, Wei Yang, Le Zhang, Peng Cui, Zhi Wang. *Large Language Models as Generalist Policies for Network Optimization*. In Submission to **Nature Communications.**

2. Chenghao Gu*, Haolan Kang*, Junchao Lin*, Jinghe Wang, **Duo Wu**, Shuzhao Xie, Fanding Huang, Junchen Ge, Ziyang Gong, Letian Li, Hongying Zheng, Changwei Lv, Zhi Wang. *IGen: Scalable Data Generation for Robot Learning from Open-World Images*. Under Review **(CCF-A)**

3. Zhimin Wang*, **Duo Wu***, Shaokang He*, Linjia Kang, Jinghe Wang, Jing Yu, Kai Zhu, Jiawei Li, Zhi Wang. *Collaborative Belief Reasoning with LLMs for Efficient Multi-Agent Collaboration*. Under Review **(CCF-A)**.

4. **Duo Wu***, Jinghe Wang*, Yuan Meng*, Yanning Zhang, Le Sun, Zhi Wang. *CATP-LLM: Empowering Large Language Models for Cost-Aware Tool Planning*. **Accepted by ICCV 2025.**

5. **Duo Wu**, Xianda Wang, Yaqi Qiao, Zhi Wang, Junchen Jiang, Shuguang Cui, Fangxin Wang. *NetLLM: Adapting Large Language Models for Networking*. **Accepted by ACM SIGCOMM 2024 (CCF-A, Acceptance Ratio: 62/366=16.9%) (130+citations, 180+ stars)**

6. Xianda Wang*, Yaqi Qiao*, **Duo Wu***, Chenrui Wu, Fangxin Wang. *Cluster Based Heterogeneous Federated Foundation Model Adaptation and Fine-Tuning*. Accepted by AAAI 2025 **(CCF-A)**

7. **Duo Wu**, Panlong Wu, Miao Zhang, Fangxin Wang. *MANSY: Generalizing Neural Adaptive Immersive Video Streaming With Ensemble and Representation Learning*. Accepted by IEEE Transactions on Mobile Computing 2024 **(CCF-A)**

8. **Duo Wu**, Dayou Zhang, Miao Zhang, Ruoyu Zhang, Fangxin Wang, Shuguang Cui. *ILCAS: Imitation Learning-Based Configuration-Adaptive Streaming for Live Video Analytics with Cross-Camera Collaboration*. Accepted by IEEE Transactions on Mobile Computing 2023 **(CCF-A)**

9. **Duo Wu**, Lin Cui. *A Comprehensive Survey on Segment Routing Traffic Engineering*. Accepted by Digital Communications and Networks **(JCR-Q1)**

HONORS & SCHOLARSHIPS

CIC Master's Thesis Incentive Program, 2025
  Only 7 awardee in the nation

Presidential Award for Outstanding Graduate Students, CUHKSZ, 2024
  Only 10 awardee out of 1500+ postgraduate students in CUHKSZ

Academic Star Nomination, JNU, 2021
  Only 23 awardee in JNU

University Scholarship of Innovative and Talented Undergraduate, JNU, 2021
  10000 RMB, only 30 awardee in JNU

COMPETITION AWARDS

National-level:

- *Gold Award* | The 2nd China Collegiate Algorithm Design & Programming Challenge Contest (Spring Competition) — 06/2021
- *1st Prize* | The 12th Lanqiao Cup National Software and Information Technology Professional Talent Competition (National Final), Python Programming University Group — 06/2021
- *Bronze Award* | The 2nd China Collegiate Algorithm Design & Programming Challenge Contest (Winter Competition) — 03/2021
- *Individual 3rd Prize* | 'China University Computer Competition – Group Programming Ladder Tournament' National Final — 12/2020
- *3rd Prize* | The 11th Lanqiao Cup National Software and Information Technology Professional Talent Competition (National Final), C/C++ Programming University Group A — 11/2020
- *3rd Prize* | The 2020 National College Students Software Testing Contest Final — 11/2020

Provincial-level:

- *1st Prize* | The 12th Lanqiao Cup National Software and Information Technology Professional Talent Competition (Guangdong Division), Python Programming University Group — 05/2021
- *Group 1st Prize* | 'China University Computer Competition – Group Programming Ladder Tournament' TOP-competing Group of Guangdong Province — 12/2020
- *2nd Prize* | The 2020 National College Students Software Testing Contest Semifinal (Guangdong Division) — 11/2020
- *1st Prize* | Lanqiao Cup National Software and Information Technology Professional Talent Competition (Guangdong Division), C/C++ Programming University Group A — 10/2020
- *3rd Prize* | The 2019 China University Student Programming Competition - Guangdong University Student Programming Competition — 05/2019

University-level:

- *2nd Prize* | The 2019 'Huawei Cup' ACM Program Design Point Competition of Jinan University — 06/2019
- *1st Prize* | The 7th 'Huawei Cup' ACM Programming Competition of Jinan University — 04/2019
- *3rd Prize* | The ACM Programming Competition for Training Camp Selection of Jinan University — 12/2018

INTERNSHIP EXPERIENCE

Future Network of Intelligence Institute at CUHKSZ   09/2022-04/2024
  Research Assistant

Huawei Technologies Co. LTD. at Dongguan   07/2021-09/2021
  Software Engineer (Intern)

SERVCICES

Journal Reviewer for:
- ❖ IEEE Transactions on Mobile Computing
- ❖ IEEE Transactions on Network and Service Management

Conference Reviewer for:
- ❖ NeurIPS 2024
- ❖ ACM Multimedia 2023

Teaching Assistant for:
- ❖ 64100033-200 Big Data System (B), 2024 Fall

- ❖ 60250131-200 Lecture Series of Big Data Science and Applications, 2025 Spring

TALK

- ❖ NetLLM: Adapting Large Language Models for Networking
  SIGCOMM, Sydney, Australia, Aug. 6th, 2024.
- ❖ Adapting Large Language Models for Networking
  The University of Göttingen, Göttingen, Germany, Virtual, Sept. 23rd, 2024.
- ❖ NetLLM: Adapting Large Language Models for Networking
  AI TIME Youth Talk, Virtual, Oct. 30th, 2024.