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NLP / LLM / MLLM

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Full Paper List



EDUCATION

Ph.D. in Computer Science

University of Warwick

Nov. 2019 – June 2024

Coventry, UK

• Supervisor: Prof. Yulan He

M.S. in Applied Urban Science & Informatics

New York University

Sept. 2018 – Sept. 2019

New York City, USA

Double Bachelor of Economics

Peking University

Sept. 2015 – July 2018

Beijing, China

B.Eng. in Information Management and Information System

University of International Relations

Sept. 2014 – July 2018

Beijing, China

• Supervisor: Prof. Binyang Li

CAREER

AI Researcher, YouTu Lab

Tencent

May 2023 – present

Shanghai, China

TECHNICAL REPORTS

- ****Pre-Train SOTA On-Device LLM (2B) from scratch****: Lu, Junru, Jiarui Qin, Lingfeng Qiao, et al. (2025). "Youtu-LLM: Unlocking the Native Agentic Potential for Lightweight Large Language Models". In: *arXiv preprint arXiv:2512.24618*
- ****Pre-Train SOTA On-Device MLLM (4B) from scratch****: Zhixiang Wei, Yi Li, Zhehan Kan, et al. (2026). "Youtu-VL: Unleashing Visual Potential via Unified Vision-Language Supervision". In: *arXiv preprint arXiv:2601.19798*

SELECTED PAPERS

- Zhenyi Shen, Lu, Junru, Lin Gui, et al. (2025). "SSA: Sparse Sparse Attention by Aligning Full and Sparse Attention Outputs in Feature Space". In: *ICML 2026*
- Yixuan Yang, Zhen Luo, Tongsheng Ding, Lu, Junru, et al. (2026). "Optiscene: Llm-driven indoor scene layout generation via scaled human-aligned data synthesis and multi-stage preference optimization". In: *NeurIPS 2025*
- Jiazheng Li, Yuxiang Zhou, Lu, Junru, et al. (2025). "Two heads are better than one: Dual-model verbal reflection at inference-time". In: *EMNLP 2025*
- Lu, Junru, Jiazheng Li, Guodong Shen, et al. (2025). "RoleMRC: A Fine-Grained Composite Benchmark for Role-Playing and Instruction-Following". In: *ACL 2025*
- Wenhao Liu, Siyu An, Lu, Junru, et al. (2024). "Tell Me What You Don't Know: Enhancing Refusal Capabilities of Role-Playing Agents via Representation Space Analysis and Editing". In: *ACL 2025*
- Lu, Junru, Jiazheng Li, Siyu An, et al. (2024). "Eliminating Biased Length Reliance of Direct Preference Optimization via Down-Sampled KL Divergence". In: *EMNLP 2024*
- Guodong Shen, Yuqi Ouyang, Lu, Junru, et al. (2024). "Advancing Video Anomaly Detection: A Bi-Directional Hybrid Framework for Enhanced Single- and Multi-Task Approaches". In: *Transactions on Image Processing (TIP 2024)*
- Lu, Junru, Xingwei Tan, Pergola Gabriele, et al. (2022). "Event-Centric Question Answering via Contrastive Learning and Invertible Event Transformation". In: *EMNLP 2022*