Haoqiang (Murray) Kang

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RESEARCH TOPICS

My research goal is to develop scalable technique to advance the general intelligence of large models, including **LLMs**, **VLMs**, **MLLMs**, and **diffusion models**, by enhancing their **reasoning and planning** abilities. Additionally, I am passionate about solving real-world problems in **embodied AI** through these advancements.

EDUCATION BACKGROUND

- **University of California San Diego (UCSD)** — *09/2024 - present*, La Jolla, CA
  Ph.D. in Computer Science
  ◦ Advisor: Lianhui Qin

- **University of Washington (UW)** — *09/2019 - 06/2023*, Seattle, WA
  B.S. in Computer Science
  ◦ Advisor: Luke Zettlemoyer

PUBLICATIONS / PREPRINTS

[1] Haoqiang Kang, Enna Sachdeva, Piyush Gupta, Sangjae Bae, Kwonjoon Lee (2024). **GFlowVLM: Enhancing Multi-step Reasoning in Vision-Language Models with Generative Flow Networks**. Under Review for *CVPR 2025*.

[2] Fangxu Yu, Lai Jiang, Haoqiang Kang, Shibo Hao, Lianhui Qin (2024). **Flow of Reasoning: Training LLMs for divergent problem solving with minimal examples**. Under Review for *ICLR 2025*.

[3] Haoqiang Kang, Terra Blevins, and Luke Zettlemoyer. (2024). **Comparing hallucination detection metrics for multilingual generation**. Under Review for *NAACL 2024*.

[4] Haoqiang Kang, Juntong Ni, and Huaxiu Yao. (2024). **EVER: Mitigating Hallucination in Large Language Models through Real-Time Verification and Rectification**.

[5] Haoqiang Kang and Xiao-Yang Liu. (2023). **Deficiency of Large Language Models in Finance: An Empirical Examination of Hallucination**. In *NeurIPS Workshop on I Can't Believe It's Not Better (ICBINB)*.

[6] Haoqiang Kang*, Terra Blevins*, and Luke Zettlemoyer. (2024). **Translate to Disambiguate: Zero-shot Multilingual Word Sense Disambiguation with Pretrained Language Models**. In *Proceedings of the European Chapter of the Association for Computational Linguistics (EACL) Main Conference*, Oral Presentation.

[7] Qianqian Xie, Weiguang Han, Xiao Zhang, …, Haoqiang Kang, … (2024). **The FinBen: A Holistic Financial Benchmark for Large Language Models**. In NeurIPS Datasets and Benchmarks (D&B) Track.

[8] Reliable and Responsible Foundation Models: A Survey. (Contributed to LLM hallucination section).

EXPERIENCE

- **Honda Research Institute** — *05/2024 - 09/2024*, San Jose, CA
  Research Intern
  ◦ Conducted research to enhance the reasoning capabilities of Vision-Language Models (VLMs).
  ◦ Developed methods leveraging GFlowNets to improve general reasoning in embodied planning tasks.

- **Columbia University** — *08/2023 - 05/2024*, Remote
  Research Intern
  ◦ Investigated hallucination issues in Large Language Models for financial applications.
  ◦ Implemented LLM-based agents to process and analyze XBRL files in the finance domain.

- **Z-Lab in University of Washington** — *09/2022 - 05/2024*, Seattle
  Research Assistant
  ◦ Conducted research on multilingual word sense disambiguation using Pretrained Language Models.
  ◦ Evaluated and analyzed multilingual hallucination in LLMs.

SERVICE

- **Peer Review:** ICLR, NeurIPS, ACL, EMNLP

SKILLS

- **Programming Languages:** Python, Java
- **Research Skills:** Large Language Models, Multi-modal Language Models, Video Generation, Reinforcement Learning, Computer Vision, Deep Learning, Embodied AI

ADDITIONAL INFORMATION

Languages: English, Chinese
Interests: Basketball, Hip-Hop Music