Yujing Wang

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Education

- **Beihang University** *09/2023 - Present*
  Master of Science in Artificial Intelligence Beijing, China
  - GPA: 3.68/4.00

- **Beihang University** *09/2019 - 06/2023*
  Bachelor of Science in Mathematics Beijing, China
  - GPA: 3.75/4.00

Research Interests

Natural Language Understanding, Trust-worthy AI, Interpretable ML, Information Retrieval, Multi-modal Learning.

Publications

[1] Yujing Wang, Hainan Zhang, Liang Pang, Yongxin Tong, Binghui Guo, Hongwei Zheng, and Zhiming Zheng. **"Learning to Erase Private Knowledge from Multi-Documents for Retrieval-Augmented Large Language Models."** arXiv preprint arXiv:2504.09910 (2025). (Under review.)

[2] Yujing Wang, Hainan Zhang, Liang Pang, Binghui Guo, Hongwei Zheng, and Zhiming Zheng. **"MaFeRw: Query rewriting with multi-aspect feedbacks for retrieval-augmented large language models."** In Proceedings of the AAAI Conference on Artificial Intelligence, vol. 39, no. 24, pp. 25434-25442. 2025.

[3] Yujing Wang, Hainan Zhang, Sijia Wen, Wangjie Qiu, and Binghui Guo. **"Defending Against Sophisticated Poisoning Attacks with RL-based Aggregation in Federated Learning."** In Proceedings of the AAAI Conference on Artificial Intelligence, vol. 39, no. 24, pp. 25443-25451. 2025.

Research & Work Experience

- **Beihang University** *Sep 2023 – Present*
  Master Student Beijing, China
  - Research direction: Retrieval-Augmented Generation (RAG), Privacy Preservation in LLMs, Multi-modal LLMs.
  - Designing the federated reinforcement alignment training architecture for multimodal LLMs.
  - Designed a privacy-erasing framework to protect sensitive user knowledge in multi-document RAG settings by identifying and eliminating user-defined private entity-relations.
  - Designed a query rewriting approach tackling ambiguous references and ellipses in conversational RAG, accepted at AAAI 2025.
  - Proposed a reinforcement learning (RL)-based aggregation scheme to defend against poisoning attacks in federated learning, accepted at AAAI 2025.

- **Meituan, Inc.** *12/2024 - 3/2025*
  Algorithm Intern Beijing, China
  - Research direction: Multi-modal RAG.
  - Implemented multi-modal (video, text) RAG function in digital human live broadcast pipeline.

Projects

- **Federated Reinforcement Alignment Tuning for Multi-modal LLMs**
  Tools: PyTorch, Transformers, TRL, verl
  - Designing both the training architecture and optimization strategies.

- **Private Knowledge Erasure in RAG**
  Tools: PyTorch, Transformers, TRL, vllm
  - Designed a rewriting-based method to remove user-defined private knowledge.
  - Fine-tuned Flan-T5 and applied PPO to balance privacy removal and public knowledge retention.

- **Enhancing RAG via Query Rewriting with Multi-Aspect Feedback**
  Tools: PyTorch, Langchain, Transformers, TRL []
  - Proposed the core idea of integrating multi-aspect feedback signals into query rewriting for RAG systems.
  - Implemented a RL pipeline using PPO to optimize a T5-based rewriter.
  - First author of the paper accepted by AAAI 2025 (poster).

- **Robust Aggregation in Federated Learning**
  Tools: PyTorch, Stable baselines3, gym [GitHub]
  ◦ Proposed a RL-based adaptive aggregation method against sophisticated poisoning attacks in FL.
  ◦ Simulated client data distributions and designed metrics to detect malicious clients.
  ◦ First author of the paper accepted by AAAI 2025 (poster).
- **Multi-Modal RAG for Digital Human Live Streaming (Internship at Meituan)**
  Tools: PyTorch, Tensorflow, ffmpeg, Transformers
  ◦ Employed TransNet V2 to perform scene-level video slicing.
  ◦ Implemented multi-modal retrieval components for RAG.

SKILLS

- **Programming Language:** Python, Matlab, C.
- **Software:** Pycharm, VScode, Matlab.
- **Language:** IELTS 7.0 (H: 6.5, R: 8.5, W: 6.5, S: 6.0).

ACADEMIC SERVICE

- **Reviewing:** ICLR'2025; ACL'2025; SIGIR'2024,2025; EMNLP'2024; COLM'2024; CIKM'2024; NAACL'2024.
- **Proposal Writing:** Project supported by the National Natural Science Foundation of China, Project supported by the National Science Foundation for Distinguished Young Scholars of China.

HONORS AND AWARDS

- **First prize of Academic Excellence Scholarship of Beihang University, 2022.**
- **Second prize of "Feng Ru Cup" Science and Technology Innovation Competition of Beihang University, 2022.**
- **First prize of National College Students Mathematical Modeling Competition (Beijing Division), 2021.**
- **Third prize in the National College Mathematics Competition, 2021.**