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PROFESSIONAL EXPERIENCE

The Ohio State University (OSU)

Columbus, USA

Postdoctoral Scholar

Sep. 2025 - now

- Job Description: Knowledge-aware Natural Language Processing (NLP), especially knowledge-enhanced LLMs.

ByteDance - AI LAB

Beijing, China

Algorithm Intern

Feb. 2023 - Aug. 2023

- Job Description: RLHF for Large Language Models, especially focusing on SFT and Reward Model.

RESEARCH INTEREST

My research interests encompass a wide range of subjects within the fields of Knowledge-aware Natural Language Processing (NLP), focusing on two main areas: (1) Knowledge Acquisition and (2) Knowledge Application. Recently, I am exploring a focused research direction of Knowledge-enhanced Large Language Models (LLMs):

- **Knowledge Acquisition:** Acquisition of knowledge concept, knowledge relation, knowledge linking and alignment using information extraction, crowd-sourcing, and LLM In-Context Learning (ICL) techniques.
- **Knowledge Application:** Application of extracted knowledge in various NLP downstream tasks, including but not limited to: Hierarchical Text Classification (HTC), Multimodal Summarization with Multimodal Output (MSMO), Question Answering (QA), etc.
- **Knowledge-enhanced LLMs:** Mitigate the hallucination problem and elicit complex reasoning ability of LLMs with the integration of internal/external knowledge, mainly through the approaches such as pre-training and Retrieval-Augmented Generation (RAG).

EDUCATION

University of Science and Technology of China (USTC), Advisor: Prof. Enhong Chen

Hefei, China

Ph.D., in Data Science - Computer Science and Technology, GPA: 3.90/4.3

Sep. 2019 - June 2025

Hong Kong University of Science and Technology (HKUST), Advisor: Prof. Xiaofang Zhou

HK, China

Visiting Ph.D. Student, in Computer Science and Engineering

May 2024 - Nov. 2024

University of Science and Technology of China (USTC)

Hefei, China

B.E., in Electronic Information Engineering, GPA: 3.78/4.3

Sep. 2015 - June 2019

HONORS

- 2025, Outstanding Graduate of USTC and Anhui Province
- 2023, CICA Finalist of Best Paper Award (Top-3)
- 2016, National Scholarship

TEACHING

- COMP6110P.02: Machine Learning and Knowledge Discovery (Fall 2021)
- CS1001A.13: Computer Programming A (Fall 2020)
- 011X3001: Introduction to Data Science (Fall 2019)
- 011164.01: Computer Programming I (Fall 2018)

ACADEMIC SERVICE

- **Area Chair:** ACL Rolling Review.
- **Conference Reviewer:** ACL Rolling Review, NeurIPS, ICLR, CVPR, WWW, AAAI.
- **Journal Reviewer:** IEEE TKDE, IEEE TBD, Neural Networks, JCST.

MENTORING

- **Xukai Liu:** USTC UG → USTC Ph.D. Worked on knowledge alignment and linking (Findings of ACL 2023, EMNLP 2024 Main).
- **Yanghai Zhang:** USTC UG → USTC Ph.D. Worked on knowledge-enhanced multimodal summarization (Findings of ACL 2024).
- **Aoran Gan:** USTC UG → USTC Ph.D. Worked on relational triple extraction (DASFAA 2025).
- **Haoyu Tang:** USTC UG → Renmin University of China MS. Machine unlearning for LLMs (ICDM 2025).

REFERENCE

- **Dr. Enhong Chen:**
Professor at USTC. Ph.D. Supervisor. Email: cheneh@ustc.edu.cn.
- **Dr. Xiaofang Zhou:**
Professor at HKUST. Supervisor of my visit in HKUST. Email: zxf@ust.hk.
- **Dr. Qi Liu:**
Professor at USTC. Close coauthor of my research in USTC. Email: qiliuql@ustc.edu.cn.

PREPRINTS

- [1]. Xukai Liu, **Ye Liu**, Shiwen Wu, Yanghai Zhang, Yihao Yuan, Kai Zhang, Qi Liu. Knows-RAG: A Knowledge-aware RAG Framework with Adaptive Retrieval, Generation, and Filtering. NeurIPS 2025 (Under Review).
- [2]. Jiajun Zhu, **Ye Liu**, Meikai Bao, Kai Zhang, Yanghai Zhang, Qi Liu. Self-Reflective Planning with Knowledge Graphs: Enhancing LLM Reasoning Reliability for Question Answering. EMNLP 2025 (Under Review).
- [3]. Linan Yue, Yichao Du, Yizhi Wang, Weibo Gao, Fangzhou Yao, Li Wang, **Ye Liu**, Ziyu Xu, Qi Liu, Shimin Di, Min-Ling Zhang. Don't Overthink It: A Survey of Efficient R1-style Large Reasoning Models. ArXiv 2025.

PUBLICATIONS

- [1]. **Ye Liu**, Han Wu, Zhenya Huang, Hao Wang, Jianhui Ma, Qi Liu, Enhong Chen*, Hanqing Tao and Ke Rui. Technical Phrase Extraction for Patent Mining: A Multi-level Approach. The 2020 IEEE International Conference on Data Mining (ICDM), 2020.
- [2]. **Ye Liu**, Kai Zhang*, Zhenya Huang, Kehang Wang, Yanghai Zhang, Qi Liu, Enhong Chen*. Enhancing Hierarchical Text Classification through Knowledge Graph Integration. Findings of the 61st annual meeting of the Association for Computational Linguistics (ACL-Findings), 2023.
- [3]. **Ye Liu**, Han Wu, Zhenya Huang, Hao Wang, Yuting Ning, Jianhui Ma, Qi Liu, Enhong Chen*. TechPat: Technical Phrase Extraction for Patent Mining. ACM Transactions on Knowledge Discovery from Data (ACM TKDD), 2023.
- [4]. **Ye Liu**, Kai Zhang, Aoran Gan, Linan Yue, Feng Hu, Qi Liu, Enhong Chen. Empowering Few-Shot Relation Extraction with The Integration of Traditional RE Methods and Large Language Models. The 29th International Conference on Database Systems for Advanced Applications (DASFAA), 2024.
- [5]. **Ye Liu**, Jiajun Zhu, Kai Zhang, Haoyu Tang, Qi Liu, Enhong Chen. Detect, Investigate, Judge and Determine: A Novel LLM-based Framework for Few-shot Fake News Detection. The 25th IEEE International Conference on Data Mining (ICDM), 2025.
- [6]. Haoyu Tang (equal contribution), **Ye Liu (equal contribution)**, Xukai Liu, Kai Zhang, Yanghai Zhang, Qi Liu, Enhong Chen. Learn while Unlearn: An Iterative Unlearning Framework for Generative Language Models. The 25th IEEE International Conference on Data Mining (ICDM), 2025.
- [7]. Aoran Gan, **Ye Liu**, Hongbo Gang, Kai Zhang, Qi Liu, Guoping Hu. From Memorization to Discovery: A Novel Benchmark for Relational Triple Extraction. The 30th International Conference on Database Systems for Advanced Applications (DASFAA), 2025.

- [8]. Feng Hu, Kai Zhang, Ye Liu, Meikai Bao, Xukai Liu, Junyu Lu, Linbo Zhu, Qi Liu. Learnable Relational Knowledge Distillation For Language Model Compression. The 30th International Conference on Database Systems for Advanced Applications (DASFAA), 2025.
- [9]. Linan Yue, Qi Liu, Ye Liu, Weibo Gao, et al. Learning from shortcut: a shortcut-guided approach for explainable graph learning. Frontiers of Computer Science (FCS), 2025.
- [10]. Yanghai Zhang, Ye Liu, Shiwei Wu, Kai Zhang*, Xukai Liu, Qi Liu, Enhong Chen. Leveraging Entity Information for Cross-Modality Correlation Learning: The Entity-Guided Multimodal Summarization. Findings of the 62nd annual meeting of the Association for Computational Linguistics (ACL-Findings), 2024.
- [11]. Xukai Liu, Ye Liu, Kai Zhang, Kehang Wang, Qi Liu, Enhong Chen. OneNet: A Fine-Tuning Free Framework for Few-Shot Entity Linking via Large Language Model Prompting. The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2024.
- [12]. Linan Yue, Qi Liu, Ye Liu, Weibo Gao, et al. Cooperative Classification and Rationalization for Graph Generalization. The ACM Web Conference, 2024 (WWW), 2024.
- [13]. Linan Yue, Qi Liu, Weibo Gao, Ye Liu, Kai Zhang, Yichao Du, Li Wang, et al. Federated Self-Explaining GNNs with Anti-shortcut Augmentations. The 41st International Conference on Machine Learning (ICML), 2024.
- [14]. Kehang Wang, Ye Liu, Kai Zhang, Qi Liu, Yankun Ren, Xinxing Yang, Longfei Li, Jun Zhou. QoMRC: Query-oriented Machine Reading Comprehension Framework for Aspect Sentiment Triplet Extraction. The 29th International Conference on Database Systems for Advanced Applications (DASFAA), 2024.
- [15]. Zhijun Dong, Likang Wu, Kai Zhang, Ye Liu, Yanghai Zhang, Zhi Li, Hongke Zhao and Enhong Chen. FZR: Enhancing Knowledge Transfer via Shared Factors Composition in Zero-Shot Relational Learning. The 33rd ACM International Conference on Information and Knowledge Management (CIKM), 2024
- [16]. Linan Yue, Qi Liu, Yichao Du, Weibo Gao, Ye Liu, et al. FedJudge: Federated Legal Large Language Model. The 29th International Conference on Database Systems for Advanced Applications (DASFAA), 2024.
- [17]. Xukai Liu, Kai Zhang*, Ye Liu, Enhong Chen, Zhenya Huang, , Linan Yue, Jiaxian Yan. RHGH: Relation-gated Heterogeneous Graph Network for Entity Alignment in Knowledge Graphs. Findings of the 61st annual meeting of the Association for Computational Linguistics (ACL-Findings), 2023.
- [18]. Meikai Bao, Qi Liu*, Kai Zhang, Ye Liu, Linan Yue, longfei li, Jun Zhou. Keep Skills in Mind: Understanding and Implementing Skills in Commonsense Question Answering. The 32nd International Joint Conference on Artificial Intelligence (IJCAI), 2023.
- [19]. Kehang Wang, Qi Liu*, Kai Zhang, Ye Liu, Hanqin Tao, Zhenya Huang, Enhong Chen. Class-Dynamic and Hierarchy-Constrained Network for Entity Linking. The 28th International Conference on Database Systems for Advanced Applications (DASFAA), 2023.
- [20]. Xin Jin, Qi Liu*, Linan Yue, Ye Liu, Lili Zhao, Weibo Gao, Zheng Gong, Kai Zhang, Haoyang Bi. Diagnosis then Aggregation: An Adaptive Ensemble strategy for Keyphrase Extraction. CAAI International Conference on Artificial Intelligence (CICAI), 2023. (Finalist of Best Paper Award!)
- [21]. Huijie Liu, Han Wu, Le Zhang, Runlong Yu, Ye Liu, Chunli Liu, Minglei Li, Qi Liu, Enhong Chen. A Hierarchical Interactive Multi-channel Graph Neural Network for Technological Knowledge Flow Forecasting. Knowledge and Information Systems (KAIS), 2022.
- [22]. Guanqi Zhu, Hanqing Tao, Han Wu, Liyi Chen, Ye Liu, Qi Liu, Enhong Chen*. Text Classification via Learning Semantic Dependency and Association. The 2022 IEEE World Congress on Computational Intelligence - IJCNN (IJCNN), 2022.
- [23]. Yixiao Ma, Shiwei Tong, Ye Liu, Likang Wu, Qi Liu, Enhong Chen*, Wei Tong, Zi Yan. Enhanced Representation Learning for Examination Papers with Hierarchical Document Structure. The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR), 2021.

- [24]. Songtao Fang, Zhenya Huang*, Ming He, Shiwei Tong, Xiaoqing Huang, **Ye Liu**, Jie Huang, Qi Liu. Guided Attention Network for Concept Extraction. The 30th International Joint Conference on Artificial Intelligence (IJCAI), 2021.
- [25]. Huijie Liu, Han Wu, Le Zhang, Runlong Yu, **Ye Liu**, Chunli Liu, Qi Liu, Enhong Chen. Technological Knowledge Flow Forecasting through A Hierarchical Interactive Graph Neural Network. IEEE International Conference on Data Mining (ICDM), 2021.
- [26]. Yuting Ning, **Ye Liu**, Zhenya Huang, Haoyang Bi, Qi Liu, Enhong Chen*, Dan Zhang. Stable and Diverse: A Unified Approach for Computerized Adaptive Testing. The 7th IEEE International Conference on Cloud Computing and Intelligence Systems (CCIS), 2021.
- [27]. Lili Zhao, Linan Yue, Yanqing An, **Ye Liu**, Kai Zhang, Weidong He, Yanmin Chen, Qi Liu*. Legal Judgment Prediction with Multiple Perspectives on Civil Cases. The 1st CAAI International Conference on Artificial Intelligence (CICAI), 2021.