

# YE LIU (刘 烨)

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## EDUCATION

**Hong Kong University of Science and Technology (HKUST)**, Supervisor: Prof. Xiaofang Zhou HK, China  
*Visiting Ph.D. Student, in Computer Science and Engineering* May 2024 - now  
**University of Science and Technology of China (USTC)**, Supervisor: Prof. Enhong Chen Hefei, China  
*Ph.D., in Data Science - Computer Science and Technology, GPA: 3.90/4.3* Sep. 2019 - now  
**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

## 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).

## INTERNSHIP EXPERIENCE

**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.

## HONORS

- 2023, CICA Finalist of Best Paper Award (Top-3)
- 2019, 2020, 2022, 2023, Graduate Student First-class Academic Scholarship
- 2021, Graduate Student Second-class Academic Scholarship
- 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

- **Conference Reviewer:** ACL Rolling Review, ICLR.
- **Journal Reviewer:** IEEE TKDE, IEEE TBD.

## MENTORING

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- **Xukai Liu:** USTC UG → USTC Ph.D. Worked on knowledge alignment and linking (Findings of ACL 2023, ACL ARR 2024 June under review).
- **Yanghai Zhang:** USTC UG → USTC Ph.D. Worked on knowledge-enhanced multimodal summarization (Findings of ACL 2024).
- **Aoran Gan:** USTC UG → USTC Ph.D. Relational triple extraction (ACL ARR 2024 June under review).
- **Haoyu Tang:** USTC UG → Renmin University of China MS. Worked on machine unlearning for large language models (NeurIPS 2024 under review).

## REFERENCE

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- **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

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- [1]. **Ye Liu**, Jiajun Zhu, Kai Zhang, Haoyu Tang, Yanghai Zhang, Xukai Liu, Qi Liu, Enhong Chen. Detect, Investigate, Judge and Determine: A Novel LLM-based Framework for Few-shot Fake News Detection. AAAI 2025 (Under Review).
- [2]. 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. NeurIPS 2024 (Under Review).
- [3]. 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. ACL ARR 2024 June (Under Review).
- [4]. Aoran Gan, **Ye Liu**, Hongbo Gang, Kai Zhang, Qi Liu, Guoping Hu. Discover rather than Memorize: A Novel Benchmark for Relational Triple Extraction. ACL ARR 2024 June (Under Review).
- [5]. Feng Hu, Kai Zhang, **Ye Liu**, Meikai Bao, Xukai Liu, Junyu Lu, Linbo Zhu, Qi Liu. Learnable Relational Knowledge Distillation Through Orthogonal Projection. AAAI 2025 (Under Review).

## PUBLICATIONS

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- [1]. **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.
- [2]. **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.
- [3]. **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.
- [4]. **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.
- [5]. 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.

- [6]. Linan Yue, Qi Liu, Ye Liu, Weibo Gao, et al. Cooperative Classification and Rationalization for Graph Generalization. The ACM Web Conference, 2024 (WWW), 2024.
- [7]. 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.
- [8]. 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.
- [9]. 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
- [10]. 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.
- [11]. 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.
- [12]. 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.
- [13]. 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.
- [14]. 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!)
- [15]. 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.
- [16]. 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.
- [17]. 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.
- [18]. 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.
- [19]. 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.
- [20]. 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.
- [21]. 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.