

Research Publications: Data Mining Research Group@CS, UIUC

2026

1. Jimeng Shi, Azam Shirali, Bowen Jin, Sizhe Zhou, Wei Hu, Rahuul Rangaraj, Zhaonan Wang, Yanzhao Wu, Leonardo Bobadilla, Upmanu Lall, Shaowen Wang, Jiawei Han, Giri Narasimhan, “Deep Learning and Foundation Models for Weather Prediction: A Survey”, in Proc. 2026 Int. Joint Conf. on Artificial Intelligence (IJCAI 2026), Bremen, Germany, Aug. 2026
2. Jash Rajesh Parekh, Wonbin Kweon, Joey Chan, Rezarta Islamaj, Robert Leaman, Pengcheng Jiang, Chih-Hsuan Wei, ZhiZheng Wang, Zhiyong Lu, Jiawei Han, “Condition-Gated Reasoning for Context-Dependent Biomedical Question Answering”, in Proc. 2026 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD 2026), Jeju Island, South Korea, Aug. 2026
3. Runchu Tian, Xueqiang Xu, Bowen Jin, SeongKu Kang, Jiawei Han, “CoRank: LLM-Based Compact Reranking with Document Features for Scientific Retrieval”, in Proc. 2026 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD 2026), Jeju Island, South Korea, Aug. 2026
4. Pengcheng Jiang, Jiashuo Sun, Wonbin Kweon, Jiawei Han, “Structure Shapes the Future of Data X LLM Systems: Retrieval, Structuring, and Reasoning” (Conference Tutorial), in Proc. 2026 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD 2026), Jeju Island, South Korea, Aug. 2026
5. Pengcheng Jiang, Judith Yue Li, Moonkyung Ryu, Lily Hu, Kun Su, Zhong Yi Wan, Liam Hebert, Hao Peng, Jiawei Han, Dima Kuzmin, Craig Boutilier, “Efficient, Property-Aligned Fan-Out Retrieval via RL-Amortized Diffusion”, in Proc. 2026 Int. Conf. on Machine Learning (ICML 2026), Seoul, South Korea, July 2026
6. Jiashuo Sun, Pengcheng Jiang, Saizhuo Wang, Jiajun Fan, Heng Wang, Siru Ouyang, Ming Zhong, Yizhu Jiao, Chengsong Huang, Xueqiang Xu, Pengrui Han, Peiran Li, Jiaxin Huang, Ge Liu, Heng Ji, Jiawei Han, “Rethinking the Reranker: Boundary-Aware Evidence Selection for Robust Retrieval-Augmented Generation”, in Proc. 2026 Int. Conf. on Machine Learning (ICML 2026), Seoul, South Korea, July 2026
7. Ke Yang, Zixi Chen, Xuan He, Jize Jiang, Michel Galley, Chenglong Wang, Jianfeng Gao, Jiawei Han, ChengXiang Zhai, “PlugMem: A Task-Agnostic Plugin Memory Module for LLM Agents”, in Proc. 2026 Int. Conf. on Machine Learning (ICML 2026), Seoul, South Korea, July 2026
8. Ming Zhong, Xiang Zhou, Ting-Yun Chang, Qingze Wang, Nan Xu, Xiance Si, Dan Garrette, Shyam Upadhyay, Jeremiah Zhe Liu, Jiawei Han, Benoit Schillings, Jiao Sun, “Vibe Checker: Aligning Code Evaluation with Human Preference”, in Proc. 2026 Int. Conf. on Machine Learning (ICML 2026), Seoul, South Korea, July 2026
9. Ruozhen Yang, Yucheng Jiang, Yueqi Jiang, Priyanka Kargupta, Yunyi Zhang, Jiawei Han, “Grounding Agent Memory in Contextual Intent”, in Proc. 2026 Annual Meeting of the Association for Computational Linguistics (Findings of ACL 2026), San Diego, CA, July 2026
10. Jiaru Zou, Dongqi Fu, Sirui Chen, Xinrui He, Zihao Li, Yada Zhu, Jiawei Han, Jingrui He, “RAG over Tables: Hierarchical Memory Index, Multi-Stage Retrieval, and Benchmarking”, in Proc. 2026

Annual Meeting of the Association for Computational Linguistics (Findings of ACL 2026), San Diego, CA, July 2026

11. Pengcheng Jiang, Lang Cao, Ruike Zhu, Minhao Jiang, Yunyi Zhang, Jiaming Shen, Jimeng Sun, Jiawei Han, “RAS: Retrieval-And-Structuring for Knowledge-Intensive LLM Generation”, in Proc. 2026 Int. Conf. on Learning Representations (ICLR 2026), Rio de Janeiro, Brazil, April 2026
12. Siru Ouyang, Jun Yan, I-Hung Hsu, Yanfei Chen, Ke Jiang, Zifeng Wang, Rujun Han, Long Le, Samira Daruki, Xiangru Tang, Vishy Tirumalashetty, George Lee, Mahsan Rofouei, Hangfei Lin, Jiawei Han, Chen-Yu Lee, Tomas Pfister, “ReasoningBank: Scaling Agent Self-Evolving with Reasoning Memory”, in Proc. 2026 Int. Conf. on Learning Representations (ICLR 2026), Rio de Janeiro, Brazil, April 2026 (<https://arxiv.org/pdf/2509.25140>)
13. Jiashuo Sun, Shixuan Liu, Zhaochen Su, Xianrui Zhong, Pengcheng Jiang, Bowen Jin, Peiran Li, Weijia Shi, Jiawei Han, “GRACE: Generative Representation Learning via Contrastive Policy Optimization”, in Proc. 2026 Int. Conf. on Learning Representations (ICLR 2026), Rio de Janeiro, Brazil, April 2026
14. Carl Edwards, Chi Han, Gawon Lee, Thao Nguyen, Sara Szymku, Chetan Kumar Prasad, Bowen Jin, Jiawei Han, Ying Diao, Ge Liu, Hao Peng, Bartosz Andrzej Grzybowski, Martin D. Burke, Heng Ji, “mCLM: A Modular Chemical Language Model that Generates Functional and Makeable Molecules”, in Proc. 2026 Int. Conf. on Learning Representations (ICLR 2026), Rio de Janeiro, Brazil, April 2026
15. Liri Fang, Dongqi Fu, Jiawei Han, Jingrui He, Vette I Torvik, “Geometric Constraints for Small Language Models to Understand and Expand Scientific Taxonomies”, in Proc. 2026 Int. Conf. on Learning Representations (ICLR 2026), Rio de Janeiro, Brazil, April 2026
16. Dawei Li, Renliang Sun, Yue Huang, Ming Zhong, Bohan Jiang, Jiawei Han, Xiangliang Zhang, Wei Wang, Huan liu, “Preference Leakage: A Contamination Problem in LLM-as-a-judge”, in Proc. 2026 Int. Conf. on Learning Representations (ICLR 2026), Rio de Janeiro, Brazil, April 2026
17. Priyanka Kargupta, Shuhaib Mehri, Dilek Hakkani-Tur, Jiawei Han, “Sparking Scientific Creativity via LLM-Driven Interdisciplinary Inspiration”, ICLR 2026 Workshop on From Human Cognition to AI Reasoning: Models, Methods, and Applications (HCAIR), Apr. 2026
18. Jiaru Zou, Dongqi Fu, Sirui Chen, Xinrui He, Zihao Li, Yada Zhu, Jiawei Han, Jingrui He, “RAG over Tables: Hierarchical Memory Index, Multi-Stage Retrieval, and Benchmarking”, (Outstanding Paper Award) in ICLR 2026 Workshop on Logical Reasoning of Large Language Models Workshop, Apr. 2026
19. Priyanka Kargupta, Shuyue Stella Li, Haocheng Wang, Dean Light, Jinu Lee, Shan Chen, Orevaoghene Ahia, Kerem Oktar, Thomas L. Griffiths, Max Kleiman-Weiner, Jiawei Han, Asli Celikyilmaz, Yulia Tsvetkov, “Cognitive Foundations for Reasoning and Their Manifestation in LLMs”, ICLR 2026 Post-AGI Science and Society Workshop (P-AGI), Apr. 2026
20. Pengrui Han, Xueqiang Xu, Keyang Xuan, Peiyang Song, Siru Ouyang, Runchu Tian, Yuqing Jiang, Cheng Qian, Pengcheng Jiang, Jiashuo Sun, Junxia Cui, Ming Zhong, Ge Liu, Jiawei Han, Jiaxuan You, “Steer2Adapt: Dynamically Composing Steering Vectors Elicits Efficient Adaptation of LLMs”, ICLR 2026 Workshop on Representational Alignment (Re4-Align), Apr. 2026

21. Wonbin Kweon, Runchu Tian, Seongku Kang, Pengcheng Jiang, Zhiyong Lu, Jiawei Han and Hwanjo Yu, "PairSem: LLM-Guided Pairwise Semantic Matching for Scientific Document Retrieval", in Proc. the ACM WEB Conference 2026 (WWW'26), Dubai, UAE, April 2026
22. Revanth Gangi Reddy, Tanay Dixit, Jiaxin Qin, Cheng Qian, Daniel Lee, Jiawei Han, Kevin Small, Xing Fan, Ruhi Sarikaya and Heng Ji, "WiNELL: Wikipedia Never-Ending Updating with LLM Agents", in Proc. the ACM WEB Conference 2026 (WWW'26), Dubai, UAE, April 2026
23. Xueqiang Xu, Jinfeng Xiao, James Barry, Mohab Elkaref, Jiaru Zou, Pengcheng Jiang, Yunyi Zhang, Maxwell J Giammona, Geeth De Mel, Jiawei Han, "Zero-Shot Open-Schema Entity Structure Discovery", in Proc. 2026 Conf. of the European Chapter of the Association for Computational Linguistics (EACL'26), Rabat, Morocco, March 2026

2025

1. Shivam Agarwal, Zimin Zhang, Lifan Yuan, Jiawei Han, Hao Peng, "[The Unreasonable Effectiveness of Entropy Minimization in LLM Reasoning](#)", in Proc. of 2025 Conf. on Neural Information Processing Systems (NeurIPS'2025), San Diego, CA, Nov. 2025
2. Xuan Liu, Siru Ouyang, Xianrui Zhong, Jiawei Han, Huimin Zhao, "[FGBench: A Dataset and Benchmark for Molecular Property Reasoning at Functional Group-Level in Large Language Models](#)", , in Proc. of 2025 Conf. on Neural Information Processing Systems (NeurIPS'2025) (Datasets & Benchmarks Track), San Diego, CA, Nov. 2025
3. Siru Ouyang, Xinyu Zhu, Zilin Xiao, Minhao Jiang, Yu Meng, Jiawei Han, "[RAST: Reasoning Activation in LLMs via Small-model Transfer](#)", in Proc. of 2025 Conf. on Neural Information Processing Systems (NeurIPS'2025), San Diego, CA, Nov. 2025
4. Jiashuo Sun, Xianrui Zhong, Sizhe Zhou, Jiawei Han, "[DynamicRAG: Leveraging Outputs of Large Language Model as Feedback for Dynamic Reranking in Retrieval-Augmented Generation](#)", in Proc. of 2025 Conf. on Neural Information Processing Systems (NeurIPS'2025), San Diego, CA, Nov. 2025
5. Zhenrui Yue, Bowen Jin, Huimin Zeng, Honglei Zhuang, Zhen Qin, Jinsung Yoon, Lanyu Shang, Jiawei Han, Dong Wang, "[Hybrid Latent Reasoning via Reinforcement Learning](#)", in Proc. of 2025 Conf. on Neural Information Processing Systems (NeurIPS'2025), San Diego, CA, Nov. 2025
6. Pengcheng Jiang, Xueqiang Xu, Jiacheng Lin, Jinfeng Xiao, Zifeng Wang, Jimeng Sun, Jiawei Han, "[s3: You Don't Need That Much Data to Train a Search Agent via RL](#)", in Proc. 2025 Conf. on Empirical Methods in Natural Language Processing (EMNLP'2025), Suzhou, China, Nov. 2025
7. Wonbin Kweon, SeongKu Kang, Runchu Tian, Pengcheng Jiang, Jiawei Han, Hwanjo Yu, "[Topic Coverage-based Demonstration Retrieval for In-Context Learning](#)", in Proc. 2025 Conf. on Empirical Methods in Natural Language Processing (EMNLP'2025), Suzhou, China, Nov. 2025
8. William Wang and Jiawei Han, "[PropRAG: Guiding Retrieval with Beam Search over Proposition Paths](#)", in Proc. 2025 Conf. on Empirical Methods in Natural Language Processing (EMNLP'2025), Suzhou, China, Nov. 2025
9. Yunyi Zhang, Ruozen Yang, Siqi Jiao, SeongKu Kang, Jiawei Han, "[Scientific Paper Retrieval with LLM-Guided Semantic-Based Ranking](#)", in Proc. 2025 Conf. on Empirical Methods in Natural Language Processing (EMNLP'2025-Findings), Suzhou, China, Nov. 2025
10. Pengcheng Jiang, Jiacheng Lin, Lang Cao, Runchu Tian, SeongKu Kang, Zifeng Wang, Jimeng Sun, and Jiawei Han, "[DeepRetrieval: Hacking Real Search Engines and Retrievers with Large Language Models via Reinforcement Learning](#)", in Proc. 2025 Conf. on Language Modeling (COLM'2025), Montreal, Canada, Oct. 2025

11. Bowen Jin, Hansi Zeng, Zhenrui Yue, Jinsung Yoon, Sercan O Arik, Dong Wang, Hamed Zamani, and Jiawei Han, "[Search-R1: Training LLMs to Reason and Leverage Search Engines with Reinforcement Learning](#)", in Proc. 2025 Conf. on Language Modeling (COLM'2025), Montreal, Canada, Oct. 2025
12. Xianrui Zhong, Bowen Jin, Siru Ouyang, Yanzhen Shen, Qiao Jin, Yin Fang, Zhiyong Lu, and Jiawei Han, "[Benchmarking Retrieval-Augmented Generation for Chemistry](#)", in Proc. 2025 Conf. on Language Modeling (COLM'2025), Montreal, Canada, Oct. 2025
13. Pengcheng Jiang, Siru Ouyang, Yizhu Jiao, Ming Zhong, Runchu Tian, Jiawei Han, "[Retrieval and Structuring Augmented Generation with Large Language Models](#)", (Conference Tutorial), Proc. of 2025 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD'25), Toronto, Canada, Aug. 2025
14. Priyanka Kargupta, Ishika Agarwal, Tal August, Jiawei Han, "[Tree-of-Debate: Multi-Persona Debate Trees Elicit Critical Thinking for Scientific Comparative Analysis](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025), Vienna, Austria, July 2025
15. Priyanka Kargupta, Yunyi Zhang, Yizhu Jiao, Siru Ouyang, Jiawei Han, "[Synergizing Unsupervised Episode Detection with LLMs for Large-Scale News Events](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025), Vienna, Austria, July 2025
16. Priyanka Kargupta, Runchu Tian, Jiawei Han, "[Beyond True or False: Retrieval-Augmented Hierarchical Analysis of Nuanced Claims](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025), Vienna, Austria, July 2025
17. Priyanka Kargupta, Nan Zhang, Yunyi Zhang, Rui Zhang, Prasenjit Mitra, Jiawei Han, "[TaxoAdapt: Aligning LLM-Based Multidimensional Taxonomy Construction to Evolving Research Corpora](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025), Vienna, Austria, July 2025
18. Yizhu Jiao, Xuchao Zhang, Zhaoyang Wang, Yubo Ma, Zhun Deng, Rujia Wang, Chetan Bansal, Saravan Rajmohan, Jiawei Han, Huaxiu Yao, "[Synergistic Weak-Strong Collaboration by Aligning Preferences](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025), Vienna, Austria, July 2025
19. Zihao Li, Lecheng Zheng, Bowen Jin, Dongqi Fu, Baoyu Jing, Yikun Ban, Jingrui He, Jiawei Han, "[Can Graph Neural Networks Learn Language with Extremely Weak Text Supervision?](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025), Vienna, Austria, July 2025
20. Yanzhen Shen, Yu Zhang, Yunyi Zhang, Jiawei Han, "[A Unified Taxonomy-Guided Instruction Tuning Framework for Entity Set Expansion and Taxonomy Expansion](#)", Proc. 2025 Annual Meeting of the Association for Computational Linguistics (ACL 2025 Findings), Vienna, Austria, July 2025
21. Jimeng Shi, Bowen Jin, Jiawei Han, Sundararaman Gopalakrishnan, Giri Narasimhan, "[CoDiCast: Conditional Diffusion Model for Global Weather Prediction with Uncertainty Quantification](#)", in Proc. 2025 Int. Joint Conf. on Artificial Intelligence (IJCAI'25), Montreal, Canada, August 2025
22. Bowen Jin, Jinsung Yoon, Zhen Qin, Ziqi Wang, Wei Xiong, Yu Meng, Jiawei Han, Sercan O Arik, "[LLM Alignment as Retriever Optimization: An Information Retrieval Perspective](#)", in Proc. 2025 Int. Conf. on Machine Learning (ICML'25), Vancouver, Canada, July 2025
23. Yi Fang*, Bowen Jin*, Jiacheng Shen*, Sirui Ding, Qiaoyu Tan, Jiawei Han, "[GRAPHGPT-O: Synergistic Multimodal Comprehension and Generation on Graphs](#)", Proc. of 2025 IEEE Conf. on Computer Vision and Pattern Recognition (CVPR'25), Nashville TN, June 2025
24. Suyu Ge, Xihui Lin, Yunan Zhang, Jiawei Han, Hao Peng, "[A Little Goes a Long Way: Efficient Long Context Training and Inference with Partial Contexts](#)", in Proc. of 2025 Int. Conf. on Learning Representations (ICLR'25), Singapore, April 2025

25. Shansan Gong, Shivam Agarwal, Yizhe Zhang, Jiacheng Ye, Lin Zheng, Mukai Li, Chenxin An, Peilin Zhao, Wei Bi, Jiawei Han, Hao Peng, Lingpeng Kong, "[Scaling Diffusion Language Models via Adaptation from Autoregressive Models](#)", in Proc. of 2025 Int. Conf. on Learning Representations (ICLR'25), Singapore, April 2025
26. Pengcheng Jiang, Cao Xiao, Minhao Jiang, Parminder Bhatia, Taha Kass-Hout, Jimeng Sun, Jiawei Han, "[Reasoning-Enhanced Healthcare Predictions with Knowledge Graph Community Retrieval](#)", in Proc. of 2025 Int. Conf. on Learning Representations (ICLR'25), Singapore, April 2025
27. Bowen Jin, Jinsung Yoon, Jiawei Han, Sercan O. Arik, "[Long-Context LLMs Meet RAG: Overcoming Challenges for Long Inputs in RAG](#)", in Proc. of 2025 Int. Conf. on Learning Representations (ICLR'25), Singapore, April 2025
28. Siru Ouyang, Wenhao Yu, Kaixin Ma, Zilin Xiao, Zhihan Zhang, Mengzhao Jia, Jiawei Han, Hongming Zhang, Dong Yu, "[RepoGraph: Enhancing AI Software Engineering with Repository-level Code Graph](#)", in Proc. of 2025 Int. Conf. on Learning Representations (ICLR'25), Singapore, April 2025
29. Ming Zhong, Aston Zhang, Xuewei Wang, Rui Hou, Wenhan Xiong, Chenguang Zhu, Zhengxing Chen, Liang Tan, Chloe Bi, Mike Lewis, Sravya Popuri, Sharan Narang, Melanie Kambadur, Dhruv Mahajan, Sergey Edunov, Jiawei Han, Laurens van der Maaten, "[Law of the Weakest Link: Cross Capabilities of Large Language Models](#)", in Proc. of 2025 Int. Conf. on Learning Representations (ICLR'25), Singapore, April 2025
30. Bowen Jin, Yu Zhang, Yunyi Zhang, and Jiawei Han, "[Integrating Textual and Graph Data: Advancing Knowledge Discovery with Semantic and Structural Insights](#)", (Conf. Tutorial), 2025 SIAM Int. Conf. on Data Mining (SDM'25), Alexandria Virginia, May 2025
31. Yu Zhang, Yanzhen Shen, SeongKu Kang, Xiusi Chen, Bowen Jin, Jiawei Han, "[Chain-of-Factors Paper-Reviewer Matching](#)", in Proc. The Web Conference 2025 (WWW'25), Sydney, Australia, April 2025 **(Yu Zhang's thesis: received 2025 ACM SIGKDD Dissertation Award Runner-Up)**
32. Yunyi Zhang, Ruozhen Yang, Xueqiang Xu, Rui Li, Jinfeng Xiao, Jiaming Shen, Jiawei Han, "[TELEClass: Taxonomy Enrichment and LLM-Enhanced Hierarchical Text Classification with Minimal Supervision](#)", in Proc. The Web Conference 2025 (WWW'25), Sydney, Australia, April 2025
33. Yizhu Jiao, Siru Ouyang, Ming Zhong, Yunyi Zhang, Linyi Ding, Sizhe Zhou, Jiawei Han, "[Retrieval and Structuring Augmented Generation with Large Language Models for Web Applications](#)", (Conf. Tutorial), 2025 The Web Conference (WWW'25), Sydney, Australia, April 2025
34. Yanzhen Shen, Yu Zhang, Yunyi Zhang, Jiawei Han, "[A Unified Taxonomy-Guided Instruction Tuning Framework for Entity Set Expansion and Taxonomy Expansion](#)", accepted for Oral Presentation at AI4Research @ AAI 2025
35. Pengcheng Jiang, Cao Xiao, Tianfan Fu, Parminder Bhatia, Taha Kass-Hout, Jimeng Sun, Jiawei Han, "[Bi-level Contrastive Learning for Knowledge-Enhanced Molecule Representations](#)", Proc. of 2025 AAI Conf. on Artificial Intelligence (AAI'25), Philadelphia, PA, Feb. 2025
36. SeongKu Kang, Bowen Jin, Wonbin Kweon, Yu Zhang, Dongha Lee, Jiawei Han, Hwanjo Yu, "[Improving Scientific Document Retrieval with Concept Coverage-based Query Set Generation](#)", in Proc. 2025 ACM Int. Conf. on Web Search and Data Mining (WSDM'25), Hannover, Germany, March 2025

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1. Ming Zhong, Yelong shen, Shuohang Wang, Yadong Lu, Yizhu Jiao, Siru Ouyang, Donghan Yu, Jiawei Han, Weizhu Chen, "[Multi-LoRA Composition for Image Generation](#)", accepted by Transactions on Machine Learning Research (TMLR), 2024
2. Pengcheng Jiang, Lang Cao, Cao Xiao, Parminder Bhatia, Jimeng Sun, Jiawei Han, "[Knowledge Graph Fine-Tuning Upon Open-World Knowledge from Large Language Models](#)", in Proc. 2024 Conf. on Neural Information Processing Systems (NeurIPS'24), Vancouver, Canada, Dec. 2024
3. Bowen Jin, Ziqi Pang, Bingjun Guo, Yu-Xiong Wang, Jiaxuan You, Jiawei Han, "[InstructG2I: Synthesizing Images from Multimodal Attributed Graphs](#)", in Proc. 2024 Conf. on Neural Information Processing Systems (NeurIPS'24), Vancouver, Canada, Dec. 2024
4. Linyi Ding, Jinfeng Xiao, Sizhe Zhou, Chaoqi Yang, Jiawei Han, "[Topic-Oriented Open Relation Extraction with A Priori Seed Generation](#)", in Proc. 2024 Conf. on Empirical Methods in Natural Language Processing (EMNLP'24), Miami, FL, Nov. 2024
5. SeongKu Kang, Yunyi Zhang, Pengcheng Jiang, Dongha Lee, Jiawei Han, Hwanjo Yu, "[Taxonomy-guided Semantic Indexing for Academic Paper Search](#)", in Proc. 2024 Conf. on Empirical Methods in Natural Language Processing (EMNLP'24), Miami, FL, Nov. 2024
6. Yu Zhang, Xiusi Chen, Bowen Jin, Sheng Wang, Shuiwang Ji, Wei Wang, Jiawei Han, "[A Comprehensive Survey of Scientific Large Language Models and Their Applications in Scientific Discovery](#)", in Proc. 2024 Conf. on Empirical Methods in Natural Language Processing (EMNLP'24), Miami, FL, Nov. 2024
7. Sizhe Zhou, Yu Meng, Bowen Jin, Jiawei Han, "[Grasping the Essentials: Tailoring Large Language Models for Zero-Shot Relation Extraction](#)", in Proc. 2024 Conf. on Empirical Methods in Natural Language Processing (EMNLP'24), Miami, FL, Nov. 2024
8. Priyanka Kargupta, Ishika Agarwal, Dilek Hakkani Tur, Jiawei Han, "[Instruct, Not Assist: LLM-based Multi-Turn Planning and Hierarchical Questioning for Socratic Code Debugging](#)", in Proc. 2024 Conf. on Empirical Methods in Natural Language Processing (EMNLP'24-Findings), Miami, FL, Nov. 2024
9. Siru Ouyang, Shuohang Wang, Minhao Jiang, Ming Zhong, Donghan Yu, Jiawei Han, Yelong Shen, "[Temperature-Centric Investigation of Speculative Decoding with Knowledge Distillation](#)", in Proc. 2024 Conf. on Empirical Methods in Natural Language Processing (EMNLP'24-Findings), Miami, FL, Nov. 2024
10. Bowen Jin, Gang Liu, Chi Han, Meng Jiang, Heng Ji, Jiawei Han, "[Large Language Models on Graphs: A Comprehensive Survey](#)", IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE), 2024
11. Jinfeng Xiao, Linyi Ding, James Barry, Mohab Elkaref, Geeth De Mel, Jiawei Han, "[Ontology-Guided Retrieval-Augmented Generation for Theme-Specific Entity Typing](#)", in Proc. of 2024 Conf. on Language Modeling (COLM'24), Philadelphia, PA, Oct. 2024
12. Kerui Zhu, Bo-Wei Huang, Bowen Jin, Yizhu Jiao, Ming Zhong, Kevin Chang, Shou-De Lin, Jiawei Han, "Investigating Instruction Tuning Large Language Models on Graphs", in Proc. of 2024 Conf. on Language Modeling (COLM'24), Philadelphia, PA, Oct. 2024
13. Tanay Komarlu, Minhao Jiang, Xuan Wang, Jiawei Han, "[OntoType: Ontology-Guided and Pre-Trained Language Model Assisted Fine-Grained Entity Typing](#)", in Proc. 2024 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD'24), Barcelona, Spain, Aug. 2024 <https://doi.org/10.48550/arXiv.2305.12307>
14. Siru Ouyang, Jiaxin Huang, Pranav Pillai, Yunyi Zhang, Yu Zhang, Jiawei Han, "[Ontology Enrichment for Effective Fine-grained Entity Typing](#)", in Proc. 2024 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD'24), Barcelona, Spain, Aug. 2024 <https://doi.org/10.48550/arXiv.2310.07795>

15. Yunyi Zhang, Ming Zhong, Siru Ouyang, Yizhu Jiao, Sizhe Zhou, Linyi Ding, Jiawei Han, "[Automated Mining of Structured Knowledge from Text in the Era of Large Language Models](#)", (Conference Tutorial), in Proc. 2024 ACM SIGKDD Int. Conf. on Knowledge Discovery and Data Mining (KDD'24), Barcelona, Spain, Aug. 2024
16. Yizhu Jiao, Sha Li, Sizhe Zhou, Heng Ji, Jiawei Han, "[Text2DB: Integration-Aware Information Extraction with Large Language Model Agents](#)", Proc. 2024 Annual Meeting of the Association for Computational Linguistics (ACL'24-findings), Bangkok, Thailand, Aug. 2024
17. Bowen Jin, Chulin Xie, Jiawei Zhang, Kashob Kumar Roy, Yu Zhang, Zheng Li, Ruirui Li, Xianfeng Tang, Suhang Wang, Yu Meng, Jiawei Han, "[Graph Chain-of-Thought: Augmenting Large Language Models by Reasoning on Graphs](#)", Proc. 2024 Annual Meeting of the Association for Computational Linguistics (ACL'24-findings), Bangkok, Thailand, Aug. 2024
18. Xianrui Zhong, Yufeng Du, Siru Ouyang, Ming Zhong, Tingfeng Luo, Qirong Ho, Hao Peng, Heng Ji, Jiawei Han, "[ActionIE: Action Extraction from Scientific Literature with Programming Languages](#)", Proc. 2024 Annual Meeting of the Association for Computational Linguistics (ACL'24), Bangkok, Thailand, Aug. 2024
19. Sizhe Zhou, Yu Meng, Bowen Jin, Jiawei Han, "[Grasping the Essentials: Tailoring Large Language Models for Zero-Shot Relation Extraction](#)", Proc. of 2024 ACL Workshop on Knowledge Augmented Methods for NLP (KnowledgeNLP@ACL2024), Bangkok, Thailand, Aug. 2024
20. Bowen Jin, Hansi Zeng, Guoyin Wang, Xiusi Chen, Tianxin Wei, Ruirui Li, Zhengyang Wang, Zheng Li, Yang Li, Hanqing Lu, Suhang Wang, Jiawei Han, Xianfeng Tang, "[Language Models as Semantic Indexers](#)", in Proc. of 2024 Int. Conf. on Machine Learning (ICML 2024), Vienna, Austria, July 2024
21. Siru Ouyang, Zhuosheng Zhang, Bing Yan, Xuan Liu, Yejin Choi, Jiawei Han, Lianhui Qin, "[Structured Chemistry Reasoning with Large Language Models](#)", in Proc. of 2024 Int. Conf. on Machine Learning (ICML 2024), Vienna, Austria, July 2024
22. Yanru Qu, Keyue Qiu, Yuxuan Song, Jingjing Gong, Jiawei Han, Mingyue Zheng, Hao Zhou, Wei-Ying Ma, "[MolCRAFT: Structure-Based Drug Design in Continuous Parameter Space](#)", in Proc. of 2024 Int. Conf. on Machine Learning (ICML 2024), Vienna, Austria, July 2024
23. Haobo Xu, Yuchen Yan, Dingsu Wang, Zhe Xu, Zhichen Zeng, Tarek F. Abdelzaher, Jiawei Han, Hanghang Tong, "[SLOG: An Inductive Spectral Graph Neural Network Beyond Polynomial Filter](#)", in Proc. of 2024 Int. Conf. on Machine Learning (ICML 2024), Vienna, Austria, July 2024
24. Suyu Ge, Chunting Zhou, Rui Hou, Madian Khabza, Yi-Chia Wang, Qifan Wang, Jiawei Han, Yuning Mao, "[MART: Improving LLM Safety with Multi-round Automatic Red-Teaming](#)", in Proc. 2024 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2024), Mexico City, Mexico, June 2024
25. Pengcheng Jiang, Jiacheng Lin, Zifeng Wang, Jimeng Sun, Jiawei Han, "[GenRES: Rethinking Evaluation for Generative Relation Extraction in the Era of Large Language Models](#)", in Proc. 2024 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2024), Mexico City, Mexico, June 2024
26. Pengcheng Jiang, Cao Xiao, Zifeng Wang, Parminder Bhatia, Jimeng Sun, Jiawei Han, "[TriSum: Learning Summarization Ability from Large Language Models](#)", in Proc. 2024 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2024), Mexico City, Mexico, June 2024
27. SeongKu Kang, Shivam Agarwal, Bowen Jin, Dongha Lee, Hwanjo Yu, and Jiawei Han, "[Improving Retrieval in Theme-specific Applications using a Corpus Topical Taxonomy](#)", in Proc. of The Web Conference 2024 (WWW'2024), Singapore, May 2024

28. Sayar Ghosh Roy and Jiawei Han, "[ILCiteR: Evidence-grounded Interpretable Local Citation Recommendation](#)", in Proc. of the 2024 Joint Int. Conf. on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024), Torino, Italy, May 2024
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