

Changzhi Sun

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EDUCATION

East China Normal University

Ph.D., Computer Science

Shanghai, China

Sep. 2014 – Dec. 2019

- Dissertation: Joint Entity Relation Extraction with Deep Learning
- Advisor: Prof. Yuanbin Wu and Prof. Shiliang Sun

Anhui Normal University

B.S., Computer Science

Wuhu, China

Sep. 2010 – Jun. 2014

EMPLOYMENT

LinGang National Lab

Assistant Researcher

Aug. 2023 – Present

Shanghai, China

- LLM and AI assisted drug discovery

ByteDance AI Lab

NLP Researcher

Jun. 2020 – Jun. 2023

Shanghai, China

- Deep reasoning (logical reasoning, math reasoning, analogical reasoning)

Microsoft Research Asia

Research Intern

Dec. 2018 – May. 2019

Beijing, China

- Topic: Joint type inference on entities and relations
- Mentor: Dr. Yeyun Gong and Dr. Nan Duan

PUBLICATIONS

[*: equal contribution; †: corresponding authors; underline indicates students working with me.]

UNDER REVIEW

- [7] Zhe Chen, Zhe Fang, Wenhao Tian, Zhaoguang Long, **Changzhi Sun**, Honglin Li, Man Lan. “ReactGPT: Understanding and Generation of Chemical Reactions via In-Context Tuning”. Long paper, submitted to AAAI 2025.
- [6] Zhe Fang, Zhe Chen, Wenhao Tian, LiyunMao, Honglin Li, **Changzhi Sun**, Man Lan. “SciParse: Neural Optical Parsing for Scientific Documents”. Long paper, submitted to AAAI 2025.
- [5] Jiazheng Xu*, **Changzhi Sun***, Kai Zhang, Qiaoyu Hu, Liang He, Honglin Li, Xuhong Qian. “Molecular Conformation Generation Model Based on Graph Mixup”. Long paper, submitted to Nature Machine Intelligence 2024 August
- [4] Qiaoyu Hu*, **Changzhi Sun***, Jiazheng Xu, Honglin Li. “Target-aware 3D Molecular Generation Based on Guided Equivariant Diffusion”. Long paper, submitted to Nature Machine Intelligence 2024 August
- [3] Nuwei Liu, **Changzhi Sun**[†], Tao Ji, Jianxin Tang, Junfeng Tian, Yuanbin Wu[†], Man Lan[†], Honglin Li[†]. “Enhancing LLMs’ Understanding of Proteins via Multimodal Sequence Representations”. Long paper, submitted to NeurIPS 2024.
- [2] Wenjing Yue, Xiaoling Wang, Wei Zhu, Ming Guan, Huanran Zheng, Pengfei Wang, **Changzhi Sun**, Xin Ma. “TCMBench: A Comprehensive Benchmark for Evaluating Large Language Models in Traditional Chinese Medicine”. In: Arxiv 2406.01126
- [1] Yijun Wang*, **Changzhi Sun***, Yuanbin Wu, Zhao Zhou, Lei Li and Junchi Yan. “Leveraging High-order Interactions for Unified Entity Relation Extraction”. In: Arxiv 2305.04297

REFEREED CONFERENCE PAPERS

- [C22] Yanting Liu, Tao Ji, Yuanbin Wu, Xiaoling Wang, **Changzhi Sun**. “Generation with Dynamic Vocabulary”. In: *the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Nov. 2024.

- [C21] Yufang Liu, Tao Ji, **Changzhi Sun**, Yuanbin Wu, Aimin Zhou. “Investigating and Mitigating Object Hallucinations in Pretrained Vision-Language (CLIP) Models”. In: *the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Nov. 2024.
- [C20] Nuwei Liu, Xinhao Chen, Hongyi Wu, **Changzhi Sun**, Man Lan, Yuanbin Wu, Xiaopeng Bai, Shaoguang Mao, Yan Xia. “CERD: A Comprehensive Chinese Rhetoric Dataset for Rhetorical Understanding and Generation in Essays”. In: *the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. - *Findings*. Nov. 2024.
- [C19] Siyu Yuan, Jiangjie Chen, **Changzhi Sun**, Jiaqing Liang, Deqing Yang and Yanghua Xiao. “AnalogyKB: Unlocking Analogical Reasoning in Language Models with A Million-scale Knowledge Base”. In: *the 62th Annual Meeting of the Association for Computational Linguistics (ACL)* Aug. 2024.
- [C18] Yuxiang Song, Yuxuan Zheng, Shangqing Zhao, Shu Liu, Xinlin Zhuang, Zhaoguang Long, **Changzhi Sun**, Aimin Zhou, and Man Lan. “A Lightweight and Effective Multi-View Knowledge Distillation Framework for Text-Image Retrieval”. In: *International Joint Conference on Neural Networks (IJCNN)*. Jun. 2024.
- [C17] Xinhao Chen, Chong Yang, **Changzhi Sun**, Man Lan and Aimin Zhou. “From Coarse to Fine: A Distillation Method for Fine-grained Emotion-Causal Span Pair Extraction in Conversation”. In: *the 39th Annual AAAI Conference on Artificial Intelligence (AAAI)*. Feb. 2024.
- [C16] Jiangjie Chen, Rui Xu, Wenxuan Zeng, **Changzhi Sun**[†], Lei Li and Yanghua Xiao[†]. “Factual Error Correction via Iterative Constrained Editing”. In: *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*. Feb. 2023.
- [C15] Jiangjie Chen, Rui Xu, Ziquan Fu, Wei Shi, Zhongqiao Li, Xinbo Zhang, **Changzhi Sun**[†], Lei Li, Yanghua Xiao[†] and Hao Zhou. “E-KAR: A Benchmark for Rationalizing Natural Language Analogical Reasoning”. In: *the 60th Annual Meeting of the Association for Computational Linguistics (ACL) - Findings*. May 2022.
- [C14] Yufang Liu, Ziyin Huang, Yijun Wang, **Changzhi Sun**, Man Lan, Yuanbin Wu, Xiaofeng Mou and Jian Tang. “Few Clean Instances Help Denoising Distant Supervision”. In: *the 29th International Conference on Computational Linguistics (COLING)*. Oct. 2022
- [C13] Siyin Wang, Jie Zhou, **Changzhi Sun**, Junjie Ye, Tao Gui, Qi Zhang and Xuanjing Huang. “Causal Intervention Improves Implicit Sentiment Analysis”. Long paper, COLING 2022 In: *the 29th International Conference on Computational Linguistics (COLING)*. Oct. 2022
- [C12] Jiangjie Chen, Qiaoben Bao, **Changzhi Sun**, Xinbo Zhang, Jiase Chen, Hao Zhou, Yanghua Xiao and Lei Li. “Logic-Regularized Reasoning for Interpretable Fact Verification”. In: *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*. Feb. 2022
- [C11] Yijun Wang, **Changzhi Sun**[†], Yuanbin Wu[†], Zhao Zhou, Lei Li and Junchi Yan[†]. “ENPAR:Enhancing Entity and Entity Pair Representations for Joint Entity Relation Extraction”. In: *Proceedings of European Chapter of the Association for Computational Linguistics (EACL)*. Apr. 2021.
- [C10] Jie Zhou, Yuanbin Wu, **Changzhi Sun** and Liang He. “Is “hot pizza” Positive or Negative? Mining Target-aware Sentiment Lexicons“. In: *Proceedings of European Chapter of the Association for Computational Linguistics (EACL)*. Apr. 2021.
- [C9] Dongyu Ru, **Changzhi Sun**[†], Jiangtao Feng, Lin Qiu, Hao Zhou, Weinan Zhang, Yong Yu and Lei Li. “Learning Logic Rules for Document-Level Relation Extraction”. In: *the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Nov. 2021.
- [C8] **Changzhi Sun**^{*}, Xinbo Zhang^{*}, Jiangjie Chen, Chun Gan, Yuanbin Wu, Jiase Chen, Hao Zhou and Lei Li. “Probabilistic Graph Reasoning for Natural Proof Generation”. In: *the 59th Annual Meeting of the Association for Computational Linguistics (ACL) - Findings*. Aug. 2021
- [C7] Yijun Wang^{*}, **Changzhi Sun**^{*}, Yuanbin Wu, Zhao Zhou, Lei Li and Junchi Yan. “UniRE: A Unified Label Space for Entity Relation Extraction”. In: *the 59th Annual Meeting of the Association for Computational Linguistics (ACL)*. Aug. 2021.
- [C6] Yijun Wang, **Changzhi Sun**, Yuanbin Wu, Junchi Yan, Peng Gao and Guotong Xie. “Pre-training Entity Relation Encoder with Intra-span and Inter-span Information”. In: *the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Nov. 2020.

- [C5] Tianyang Zhao, Haoyan Liu, Qianhui Wu, **Changzhi Sun**, Dongdong Zhan and Zhoujun Li. “BiGCNN: Bidirectional Gated Convolutional Neural Network for Chinese Named Entity Recognition”. In: *the 25th International Conference on Database Systems for Advanced Applications (DASFAA)*. Sep. 2020.
- [C4] **Changzhi Sun**, Yeyun Gong, Yuanbin Wu, Ming Gong, Daxin Jiang, Man Lan, Shiliang Sun and Nan Duan. “Joint Type Inference on Entities and Relations via Graph Convolutional Networks”. In: *the 57th Annual Meeting of the Association for Computational Linguistics (ACL)*. July. 2019.
- [C3] **Changzhi Sun**, Yuanbin Wu. “Distantly Supervised Entity Relation Extraction with Adapted Manual Annotations”. In: *the 33rd AAAI Conference on Artificial Intelligence (AAAI)*. Jan. 2019.
- [C2] **Changzhi Sun**, Yuanbin Wu, Man Lan, Shiliang Sun, Wenting Wang, Kuang-Chih Lee, and Kewen Wu. “Extracting Entities and Relations with Joint Minimum Risk Training”. In: *the Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Oct. 2018.
- [C1] **Changzhi Sun**, Yuanbin Wu, Man Lan, Shiliang Sun and Qi Zhang. “Large-scale Opinion Relation Extraction with Distantly Supervised Neural Network”. In: *Proceedings of European Chapter of the Association for Computational Linguistics (EACL)*. Apr. 2017.

PATENTS

- [P4] Yijun Wang, **Changzhi Sun**, Hao Zhou, Lei Li. “Information acquisition method, device, equipment, and medium”. Pat. CN2021107620486. Jul. 2021
- [P3] **Changzhi Sun**, Xinbo Zhang, Hao Zhou, Lei Li. “Information processing method, device, and electronic equipment based on natural language inference”. Pat. CN2021107446583. Jul. 2021
- [P2] Xinbo Zhang, Jiangjie Chen, Qiaoben Bao, **Changzhi Sun**, Jiaye Chen, Hao Zhou, Yanghua Xiao, Lei Li. “Method, device, apparatus, and medium for verifying the authenticity of statements”. Pat. CN2021113566258. Nov. 2021
- [P1] **Changzhi Sun**, Dongyu Ru. “Method, device, equipment, and medium for relation extraction”. Pat. CN2021111612054. Sep. 2021

PROFESSIONAL SERVICE

ORGANIZERS:

- Organizer for 2014 China Conference on Knowledge Graph and Semantic Computing. Task: Assessment of Understanding and Reasoning Abilities in Traditional Chinese Medicine. 407 teams. (Hosted by ECNU & FDU & SHUTC)

PROGRAM COMMITTEE:

- ARR, NAACL, AAAI, ACL, EMNLP, EACL, COLING, NeurIPS, ICLR, NLPCC.

JOURNAL REVIEWER:

- CL

STUDENTS ADVISING

1. Nuowei Liu (ECNU master Jul. 2023 - present)
2. Jianxin Tang (ECNU Ph.D Jul. 2023 - present)
3. Lingfeng Chen (ECNU Ph.D Jul. 2023 - present)
4. Daohong Gong (ShanghaiTech Ph.D Jul. 2023 - present)
5. Jiangjie Chen (intern at ByteDance, FDU Ph.D, Jul. 2021 - Jun. 2023)
6. Xuantaolu (intern at ByteDance, FDU master → Xiaohongshu, Mar. 2022 - Jun. 2023)
7. Haoran Li (intern at ByteDance, HKUST Ph.D, Mar. 2022 - Aug. 2022)
8. Liping Yuan (intern at ByteDance, FDU master → ByteDance, Mar. 2022 - Dec. 2022)
9. Chi Han (intern at ByteDance, UIUC Ph.D, Jan. 2021 - Aug. 2021)
10. Dongyu Ru (intern at ByteDance, SJTU master → Amazon, Jan. 2021 - Jan. 2022)
11. Yijun Wang (intern at ByteDance, SJTU master → Tencent, Mar. 2021 - Dec. 2022)
12. Runxi Xu (intern at ByteDance, PKU master → ByteDance, Sep. 2020 - Feb. 2021)