Xiusi Chen

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RESEARCH INTERESTS

Natural Language Processing, Reinforcement Learning Applications, Machine Learning, Data Mining

EDUCATION

University of California, Los Angeles
Ph.D. candidate in Computer Science

- **Fields:** Natural Language Processing (Question Answering, LLM Alignment), Machine Learning (Reinforcement Learning Applications), Data Mining (Graph Mining and Text Mining).
- **Thesis Committee:** Wei Wang (Chair), Yizhou Sun, Kai-Wei Chang, Jeffrey Brantingham.

Peking University
M.S. in Computer Science

- **Fields:** Data Mining, Recommendation
- **Thesis Committee:** Jun Gao (Chair), Bin Cui, Ming Zhang, and Shuai Ma.

Peking University
B.S. in Computer Science

- **Thesis:** The Design and Implementation of Indexes on Distributed Big Graph Processing Framework
- **Advisor:** Prof. Jun Gao

PROFESSIONAL EXPERIENCES

Amazon Search Query Understanding team, Applied Scientist Intern	6/2023 - 12/2023
Amazon Search PECOS team, Applied Scientist Intern	6/2022 - 9/2022
NEC Laboratories America Data Science & System Security, Research Intern	6/2019 - 9/2019
Alibaba DAMO Academy, Research Intern	7/2016 - 12/2016

PREPRINTS AND UNDER REVIEW

Xiusi Chen, Jyun-Yu Jiang, Wei-Cheng Chang, Cho-Jui Hsieh, Hsiang-Fu Yu, Wei Wang, *MinPrompt: Graph-based Minimal Prompt Data Augmentation for Few-shot Question Answering.* submitted to **ARR**, on arxiv.

Xiusi Chen, Wei-Yao Wang, Ziniu Hu, Curtis Chou, Lam Hoang, Kun Jin, Mingyan Liu, P. Jeffrey Brantingham, Wei Wang, *Professional Basketball Player Behavior Synthesis via Planning with Diffusion.* submitted to **IJCAI**, on arxiv.

Yijun Tian*, Yikun Han*, **Xiusi Chen***, Wei Wang, Nitech V. Chawla, *TinyLLM: Learning a Small Student from Multiple Large Language Models.* submitted to **CoLM**, on arxiv.

Yu Wang, Yifan Gao, **Xiusi Chen**, Haoming Jiang, Shiyang Li, Jingfeng Yang, Qingyu Yin, Zheng Li, Xian Li, Bing Yin, Jingbo Shang, Julian McAuley, *MEMORYLLM: Toward Self-Updating Large Language Models.* submitted to **ICML**, on arxiv.

Yu Zhang, Yanzhen Shen, **Xiusi Chen**, Bowen Jin, Jiawei Han, *"Why Should I Review This Paper?" Unifying Semantic, Topic, and Citation Factors for Paper-Reviewer Matching.* submitted to **KDD**, on arxiv.

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.* submitted to **ICML**, on arxiv.

Yupeng Hou, Jiacheng Li, Zhankui He, An Yan, **Xiusi Chen**, Julian McAuley, *Bridging Language and Items for Retrieval and Recommendation.* Also known as **Amazon Reviews'23**, on arxiv.

Haorui Wang, Rongzhi Zhang, Yinghao Li, Lingkai Kong, Yuchen Zhuang, **Xiusi Chen**, Chao Zhang, *TPD: Enhancing Student Language Model Reasoning via Principle Discovery and Guidance.* submitted to **CoLM**, on arxiv.

PUBLICATIONS

Xiusi Chen, Hongzhi Wen, Sreyashi Nag, Chen Luo, Qingyu Yin, Ruirui Li, Zheng Li, Wei Wang, IterAlign: *Iterative Constitutional Alignment of Large Language Models.* Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**), main conference, 2024

Xiusi Chen, Yu Zhang, Jinliang Deng, Jyun-Yu Jiang, Wei Wang, Gotta: *Generative Few-shot Question Answering by Prompt-based Cloze Data Augmentation.* In Proceedings of the 2023 SIAM International Conference on Data Mining (**SDM**), 2023.
Long paper, Best Poster Award (Honorable Mention)

Xiusi Chen, Jyun-Yu Jiang, Wei Wang, *Scalable Graph Representation Learning via Locality-Sensitive Hashing.* In Proceedings of The 31st ACM International Conference on Information and Knowledge Management (**CIKM**), 2022.

Xiusi Chen, Jyun-Yu Jiang, Kun Jin, Yichao Zhou, Mingyan Liu, Jefferey Brantingham, Wei Wang, ReLiable: *Offline Reinforcement Learning for Tactical Strategies in Professional Basketball Games.* In Proceedings of The 31st ACM International Conference on Information and Knowledge Management (**CIKM**), 2022.

Jinliang Deng, **Xiusi Chen**, Renhe Jiang, Du Yin, Yi Yang, Xuan Song, Ivor W. Tsang, *Disentangling Structured Components: Towards Adaptive, Interpretable and Scalable Time Series Forecasting.* In IEEE Transactions on Knowledge and Data Engineering (**TDKE**), 2024.

Jessie W. Y. Ko, Shengquan Ni, Alexander Taylor, **Xiusi Chen**, Yicong Huang, Avinash Kumar, Sadeem Alsudais, Zuozhi Wang, Xiaozhen Liu, Wei Wang, Chen Li, Suellen Hopfer, *How the Experience of California Wildfires Shapes Twitter Climate Change Framings.* **Climatic Change**, 2024.

Alexander Taylor, Yicong Huang, Junheng Hao, Xinyuan Lin, **Xiusi Chen**, Wei Wang, Chen Li, *Data Science Tasks Using Scripts versus GUI-based Workflows: The Good, the Bad, and the Ugly.* In Proceedings of the 3rd International Workshop on Data Platform Design, Management, and Optimization. (**DataPlat@ICDE**), 2024

Yu Zhang, Bowen Jin, **Xiusi Chen**, Yanzhen Shen, Yunyi Zhang, Yu Meng, Jiawei Han, *Weakly Supervised Multi-Label Classification of Full-Text Scientific Papers.* In Proceedings of 29th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**), 2023.

Shengquan Ni, Yicong Huang, Jessie W. Y. Ko, Alexander Taylor, **Xiusi Chen**, Avinash Kumar, Sadeem Alsudais, Zuozhi Wang, Xiaozhen Liu, Wei Wang, Suellen Hopfer, Chen Li, *Using Texera to Characterize Climate Change Discussions on Twitter During Wildfires.* (**KDD**), 2023. (poster paper)

Jinliang Deng, **Xiusi Chen**, Renhe Jiang, Xuan Song, Ivor W. Tsang, *A Multi-view Multi-task Learning Framework for Multivariate Time Series Forecasting.* In IEEE Transactions on Knowledge and Data Engineering (**TDKE**), 2022.

Yu Zhang*, Shweta Garg*, Yu Meng, **Xiusi Chen**, Jiawei Han, *MotifClass: Weakly Supervised Text Classification with Higher-order Metadata Information.* In Proceedings of the Fifteenth ACM International Conference on Web Search and Data Mining (**WSDM**), 2022.

Yichao Zhou, Jyun-Yu Jiang, **Xiusi Chen**, Wei Wang. *#StayHome or #Marathon? Social Media Enhanced Pandemic Surveillance on Spatial-temporal Dynamic Graphs.* In Proceedings of The 30th ACM International Conference on Information and Knowledge Management (**CIKM**), 2021.

Jyun-Yu Jiang, Yichao Zhou, **Xiusi Chen**, Yan-Ru Jhou, Liqi Zhao, Sabrina Liu, Po-Chun Yang, Jule Ahmar, Wei Wang. *COVID-19 Surveiller: Toward a Robust and Effective Pandemic Surveillance System based on Social Media Mining.* In Philosophical Transactions of the Royal Society A (**Philosophical Transactions A**), 2022.

Jinliang Deng, **Xiusi Chen**, Renhe Jiang, Xuan Song, Ivor W. Tsang. *ST-Norm: Spatial and Temporal Normalization for Multivariate Time Series Forecasting.* In Proceedings of 27th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**), 2021.

Seungbae Kim, **Xiusi Chen**, Jyun-Yu Jiang, Jinyoung Han, Wei Wang. *Evaluating audience loyalty and authenticity in influencer marketing via multi-task multi-relational learning.* In The 15th International AAAI Conference on Web and Social Media (**ICWSM**), 2021.

Jinliang Deng, **Xiusi Chen**, Zipei Fan, Renhe Jiang, Xuan Song, Ivor W. Tsang. 2021. *The Pulse of Urban Transport: Exploring the Co-evolving Pattern for Spatio-temporal Forecasting.* In ACM Transactions on Knowledge Discovery in Data (**TKDD**), 2021.

Yu Zhang, **Xiusi Chen**, Yu Meng, Jiawei Han, *Hierarchical Metadata-Aware Document Categorization under Weak Supervision.* In Proceedings of the Fourteenth ACM International Conference on Web Search and Data Mining (**WSDM**), 2021.

Ruirui Li, Xian Wu, **Xiusi Chen**, Wei Wang, *Self-Attentive Few-Shot Learning for New User Recommendation in Location-based Social Networks.* In Proceedings of The Web Conference 2020 (**WWW**), 2020. Oral.

Fangbo Tao*, Chao Zhang*, **Xiusi Chen**, Meng Jiang, Tim Hanratty, Lance Kaplan and Jiawei Han, *Doc2Cube: Automated Document Allocation to Text Cube via Dimension-Aware Joint Embedding*. In Proceedings of the 17th IEEE International Conference on Data Mining (**ICDM**), 2018. Oral.

Chao Zhang, Fangbo Tao, **Xiusi Chen**, Jiaming Shen, Meng Jiang, Brian Sadler, Michelle Vanni and Jiawei Han, *TaxonGen: Constructing Topical Concept Taxonomy by Adaptive Term Embedding and Clustering*. In Proceedings of 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**), 2018. Oral.

Chang Zhou, Jinze Bai, Junshuai Song, Xiaofei Liu, Zhengchao Zhao, **Xiusi Chen**, and Jun Gao, *ATRank: An Attention-Based User Behavior Modeling Framework for Recommendation*. In Proceedings of the 32nd AAAI Conference on Artificial Intelligence(**AAAI**), 2018. Oral.

US PATENT

Wenchao Yu, Bo Zong, Wei Cheng, Haifeng Chen, **Xiusi Chen**, *Knowledge Graph and Alignment with Uncertainty Embedding*.

ACADEMIC SERVICE

Conference Program Committee
KDD'20-24; WSDM'22-24; WWW'24; SSL@WWW'21;
ICML'23-24; NeurIPS'22-23; ICLR'22-24; AAAI'21-24; IJCAI-ECAI'22-24;
ACL Rolling Review.

Conference Subreviewer
KDD'18, CIKM'18, WISE'18, IJCAI'19

Journal Reviewer
IEEE Transactions on Big Data (TBD), IEEE Transactions on Knowledge and Data Engineering (TKDE).

Student Volunteer
KDD'20, KDD'23.

HONORS AND AWARDS

Best Poster Award (Honorable Mention)   Apr. 2023
SIAM International Conference on Data Mining (SDM)

SIAM Student Travel Award   Feb. 2023
SIAM

SIGIR Student Travel Grant   Sept. 2022
ACM SIGIR

SIGIR Student Travel Grant   Sept. 2021
ACM SIGIR

Leo KoGuan Fellowship   Sept. 2016
top 2%, Peking University

Merit Student   Sept. 2016
top 5%, Peking University

Graduate Student Academic Fellowship   Sept. 2015, 2016, 2017
Peking University

3rd Place of 17th Chinese University Basketball Association (CUBA) Championships, Beijing Division   Oct. 2014
On behalf of Peking University, Federation of University Sports of China

6th Place of the High School Students Swimming Contest of Hunan Province, 100M Breaststroke   Sept. 2010
The Education Department of Hunan Province

TEACHING EXPERIENCE

CS 245: Big Data Analysis   Fall 2020
Teaching Associate, University of California, Los Angeles

CS 143: Database Systems Spring 2020
Teaching Assistant, University of California, Los Angeles

CS 31: Introduction to Computer Science Fall 2019, Winter 2020
Teaching Assistant, University of California, Los Angeles

Introduction to Database Systems (Honor Track) Spring 2016
Teaching Assistant, Peking University

Database Systems Principles and Technologies Fall 2016
Teaching Assistant, Peking University

CS 143: Database Systems
Teaching Assistant, University of California, Los Angeles

CS 31: Introduction to Computer Science
Teaching Assistant, University of California, Los Angeles

Introduction to Database Systems (Honor Track)
Teaching Assistant, Peking University