

Xiusi Chen

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RESEARCH INTERESTS

My ultimate research goal is to build automated language agents that can assist human in a variety of domains. To achieve this goal, I worked on:

- **Large Language Models**, especially low-resource LLM reasoning (*Gotta*, *MinPrompt*) and alignment (*IterAlign*);
- **Language and Other Modality Applications**, especially in retrieval and recommendation (*CP-LSH*, *BLaIR*);
- **Complex Dynamics Modeling and Decision Making**, especially the planning tasks in sports domain (*ReLiable*, *PlayBest*).

EDUCATION

University of California, Los Angeles

Ph.D. in Computer Science

Thesis Committee: Prof. Wei Wang (Chair), Prof. Yizhou Sun, Prof. Kai-Wei Chang, Prof. Jeffrey Brantingham.

Peking University

M.S. in Computer Science

Thesis Committee: Prof. Jun Gao (Chair), Prof. Bin Cui, Prof. Ming Zhang, and Prof. Shuai Ma.

Peking University

B.S. in Computer Science

Advisor: Prof. Jun Gao

INDUSTRIAL 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

SELECTED PUBLICATIONS

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*. In Proceedings of The 62nd Annual Meeting of the Association for Computational Linguistics (**ACL**), main conference, 2024.

Xiusi Chen, Hongzhi Wen, Sreyashi Nag, Chen Luo, Qingyu Yin, Ruirui Li, Zheng Li, Wei Wang, *ITERALIGN: Iterative Constitutional Alignment of Large Language Models*. In 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, 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.

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, Wei-Yao Wang, Ziniu Hu, David Reynoso, Kun Jin, Mingyan Liu, P. Jeffrey Brantingham, Wei Wang, *Professional Basketball Player Behavior Synthesis via Planning with Diffusion*. submitted to **CIKM**, 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, **Xiushi 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*. In Proceedings of The Forty-first International Conference on Machine Learning (**ICML**), 2024.

Bowen Jin, Hansi Zeng, Guoyin Wang, **Xiushi 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 Proceedings of The Forty-first International Conference on Machine Learning (**ICML**), 2024.

Yupeng Hou, Jiacheng Li, Zhankui He, An Yan, **Xiushi Chen**, Julian McAuley, *Bridging Language and Items for Retrieval and Recommendation*. Also known as **Amazon Reviews'23**, submitted to **NeurIPS**, on arxiv. **Totaling 200k+ downloads as of May 2024**.

Yu Zhang, Bowen Jin, **Xiushi 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.

Jinliang Deng, **Xiushi 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.

Chao Zhang, Fangbo Tao, **Xiushi 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.

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

OTHER PUBLICATIONS

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

Jinliang Deng, **Xiushi 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, **Xiushi 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, **Xiushi 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

Shengquan Ni, Yicong Huang, Jessie W. Y. Ko, Alexander Taylor, **Xiushi 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, **Xiushi 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, **Xiushi 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, **Xiushi 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, **Xiushi 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.

Seungbae Kim, **Xiushi 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, **Xiushi 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.

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 Alignment with Uncertainty Embedding*.

ACADEMIC SERVICE

Conference Program Committee

KDD'20-24; WSDM'22-24; WWW'24; SSL@WWW'21;
ICML'23-24; NeurIPS'22-24; 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)

SIAM International Conference on Data Mining (SDM)

Apr. 2023

SIAM Student Travel Award

SIAM

Feb. 2023

SIGIR Student Travel Grant

ACM SIGIR

Sept. 2022

SIGIR Student Travel Grant

ACM SIGIR

Sept. 2021

Leo KoGuan Fellowship

top 2%, Peking University

Sept. 2016

Merit Student

top 5%, Peking University

Sept. 2016

Graduate Student Academic Fellowship

Peking University

Sept. 2015, 2016, 2017

3rd Place of 17th Chinese University Basketball Association (CUBA) Championships, Beijing Division

On behalf of Peking University, Federation of University Sports of China

Oct. 2014

6th Place of the High School Students Swimming Contest of Hunan Province, 100M Breaststroke

The Education Department of Hunan Province

Sept. 2010

TEACHING EXPERIENCE

CS 245: Big Data Analysis

Teaching Associate, University of California, Los Angeles

Fall 2020

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

Spring 2020

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

Fall 2019, Winter 2020

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

Spring 2016

Database Systems Principles and Technologies*Teaching Assistant, Peking University*

Fall 2016

REFERENCES

Wei Wang, Leonard Kleinrock Chair Professor, ACM Fellow, IEEE Fellow

Department of Computer Science

University of California, Los Angeles

✉ weiwang@cs.ucla.edu**Yizhou Sun**, Associate Professor

Department of Computer Science

University of California, Los Angeles

✉ yzsun@cs.ucla.edu**P. Jeffrey Brantingham**, Professor

Department of Anthropology

University of California, Los Angeles

✉ branting@ucla.edu**ChengXiang Zhai**, Donald Biggar Willett Professor, ACM Fellow

Department of Computer Science

University of Illinois at Urbana-Champaign

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