Zhichao Xu

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RESEARCH INTERESTS   Language Modeling, Explainable Information Retrieval, Dialogue System

INDUSTRY EXPERIENCES

Visa Research   Foster City, CA
Staff Research Scientist Intern   05/2024 – 08/2024
Mentored on Dr. Junpeng Wang, Dr. Michael Yeh
Research Project on Large Language Models & Tool Usage

Google Research   Mountain View, CA
Student Researcher   05/2023 – 08/2023
Hosted by Dr. Jiepu Jiang
Research Project on Task-oriented Dialogue Systems & Evaluation

Dataminr   NYC, NY
Research Intern   09/2022 – 12/2022
Mentored by Dr. Daniel Cohen, Dr. Hemank Lamba
Research Project on Cross-lingual Retrieval

Dataminr   NYC, NY
Research Intern   05/2022 – 08/2022
Mentored by Dr. Sebastian Bruch, Dr. Hemank Lamba
Research Project on Counterfactual Explanations for Web Search

EDUCATION

University of Utah   Salt Lake City, UT
PhD in Computer Science   09/2020 – Present
Advisor: Prof. Vivek Srikumar, Prof. Bei Wang

Rutgers University   New Brunswick, NJ
MS in Computer Science   09/2018 – 05/2020
Advisor: Prof. Yongfeng Zhang
CS Department Outstanding Publication Award

Shanghai University of Finance & Economics   Shanghai, CN
BS in Applied Statistics   09/2014 – 06/2018

SELECTED PUBLICATIONS

In-Context Example Ordering Guided by Label Distributions [preprint]
Zhichao Xu, Daniel Cohen, Bei Wang Philips, Vivek Srikumar
*in proceedings of Findings of 2024 Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL 2024 Findings**)*

An In-depth Investigation of User Simulation for Conversational Search [pdf] [code]
Zhenduo Wang, **Zhichao Xu**, Qingyao Ai and Vivek Srikumar
*in proceedings of the 33rd ACM Web Conference (**TheWebConf 2024**)*

A Lightweight Constrained Generation Alternative for Query-focused Summarization [pdf], [code]
Zhichao Xu and Daniel Cohen.
*in proceedings of the 46th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2023**)*

FARA: Future-aware Ranking Algorithm for Fairness Optimization [pdf]
Tao Yang, **Zhichao Xu**, Zhenduo Wang and Qingyao Ai
*The 32nd ACM International Conference on Information and Knowledge Management (**CIKM 2023**)*

Vertical Allocation-based Fair Exposure Amortizing in Ranking   [pdf], [code]
Best Paper Honorable Mention
Tao Yang, **Zhichao Xu**, Qingyao Ai.
*The 1st International ACM SIGIR Conference on Information Retrieval in the Asia Pacific (**SIGIR AP 2023**)*

A Reusable Model-agnostic Framework for Faithfully Explainable Recommendation and System Scrutability [pdf]
Zhichao Xu, Hansi Zeng, Juntao Tan, Zuohui Fu, Yongfeng Zhang and Qingyao Ai
*ACM Transactions on Information Systems (**TOIS 2023**)*

Automated Generation of Security-Centric Descriptions for Smart Contract Bytecode [pdf], Distinguished Paper Award
Yu Pan, **Zhichao Xu**, Levi Taiji Li, Yunhe Yang and Mu Zhang
*The 32nd ACM SIGSOFT International Symposium on Software Testing and Analysis (**ISSTA 2023**)*

MCFair, Marginal-Certainty-aware Fair Ranking Algorithm [pdf], [code]
Tao Yang, **Zhichao Xu**, Zhenduo Wang, Anh Tran, Qingyao Ai.
*The 16th ACM International Conference on Web Search and Data Mining (**WSDM 2023**)*

Understanding the Effectiveness of Reviews in E-commerce Top-N Recommendation [pdf], [code]
Zhichao Xu, Hansi Zeng, Qingyao Ai.
*The 7th International Conference on the Theory of Information Retrieval (**ICTIR 2021**)*

A Zero Attentive Relevance Matching Network for Review Modeling in Recommendation System [pdf], [code]
Hansi Zeng, **Zhichao Xu**, Qingyao Ai.
*The 43rd European Conference on Information Retrieval (**ECIR 2021**)*

E-commerce Recommendation with Weighted Expected Utility [pdf]
Zhichao Xu, Yi Han, Yongfeng Zhang, Qingyao Ai.
*The 29th ACM International Conference on Information and Knowledge Management (**CIKM 2020**)*

Speech-Based Activity Recognition for Trauma Resuscitation [pdf]
Jalal Abdulbaqi, Yue Gu, **Zhichao Xu**, Chenyang Gao, Ivan Marsic, Randall S Burd.
*The 8th IEEE International Conference on Healthcare Informatics (**ICHI 2020**)*

PREPRINTS

RankMamba: Benchmarking Mamba's Document Ranking Performance in the Era of Transformers [pdf] [code]
Zhichao Xu.
manuscript on arXiv, 2024

Multi-dimensional Evaluation of Empathetic Dialogue Utterances [pdf]
Zhichao Xu, Jiepu Jiang
manuscript on arXiv, 2024

Counterfactual Editing for Search Result Explanation [pdf]
Zhichao Xu, Hemank Lamba, Qingyao Ai, Joel Tetreault and Alex Jaimes
manuscript on arXiv, 2023

Context-aware Decoding Reduces Hallucination in Query-focused Summarization [pdf] [code]
Zhichao Xu.
manuscript on arXiv, 2023

Reward-free Policy Imitation Learning for Conversational Search [pdf]
Zhenduo Wang, **Zhichao Xu**, Qingyao Ai
manuscript on arXiv, 2023

Reinforcement Learning to Rank with Coarse-grained Labels [pdf]
(* indicates equal contribution)
Zhichao Xu*, Anh Tran*, Tao Yang, Qingyao Ai.
manuscript on arXiv, 2022

Learning to Rank Rationales for Explainable Recommendation [pdf], [code]
Zhichao Xu, Yi Han, Tao Yang, Anh Tran, Qingyao Ai.
manuscript on arXiv, 2022

WORKING PAPERS

Reinforcement Learning To Rank Using Coarse-grained Rewards
Yiteng Tu, **Zhichao Xu**, Tao Yang, Yujia Zhou, Zirou Ren, Qingyao Ai, Yiqun Liu.
in submission

TEACHING

TA, CS 6350 Machine Learning, School of Computing, University of Utah
Lecturer: Prof. Vivek Srikumar   Spring 2024

Lead TA, CS 6140 Data Mining, School of Computing, University of Utah
Lecturer: Prof. Ana Marasovic   Spring 2023

TA, CS 2100 Discrete Structures, School of Computing, University of Utah
Lecturer: Prof. Bei Wang Philips   Fall 2022

TA, CS 6140 Data Mining, School of Computing, University of Utah
Lecturer: Prof. Qingyao Ai   Spring 2022

Services   Conference Reviewer: ACL, ACL ARR, SIGIR, TheWebConf, KDD, RecSys, CCL
                    Journal Reviewer: TOIS
                    Workshop Reviewer: DLP-KDD, DLP-RecSys

Committee Members   Internal: Prof. Vivek Srikumar, Prof. Bei Wang, Prof. Ana Marasovic
                    External: Prof. Qingyao Ai, Prof. Yongfeng Zhang

Skills   Programming: Python, PhP, Java, C++, Matlab
                    Tools: PyTorch, Tensorflow, JAX, Spark, MapReduce, MongoDB, MySQL, LaTeX