Bohan Zhang

Email: zbohan@umich.edu, Personal Page, School Page

Education

University of Michigan
Ph.D. in Information Science   Aug 2022 - Present
M.S. in Computer Science and Engineering   Aug 2020 - May 2022

The Ohio State University   Aug 2017 - May 2020
B.S. in Computer Science and Engineering, Minor in Linguistics

Xiamen University   Aug 2015 - July 2017
Major in Computer Science and Technology (Transferred out)

Research Interests

Human-LM Collaboration, Personalization, Causal Inference, Machine Learning

Publications

1. **Bohan Zhang**, Yixin Wang, Paramveer Dhillon. "Causal Inference for Human-Language Model Collaboration." Forthcoming in the Main Conference of **NAACL '24**. [Link].

2. Kenan Alkiek, **Bohan Zhang**, David Jurgens. "Classification without (Proper) Representation: Political Heterogeneity in Social Media and Its Implications for Classification and Behavioral Analysis." In *Findings of the Association for Computational Linguistics* (**ACL '22**), pages 504–522, Dublin, Ireland. Association for Computational Linguistics. [Link].

3. **Bohan Zhang**, Prafulla Kumar Choubey, Ruihong Huang. "Predicting Sentence Deletions for Text Simplification Using a Functional Discourse Structure." In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics* (**ACL '22**), pages 255–261, Dublin, Ireland. Association for Computational Linguistics. [Link].

4. Yingzi Bu*, Ruoxi Gao*, **Bohan Zhang***, Luchen Zhang, Duxin Sun. "CoGT: Ensemble Machine Learning Method and its Application on JAK Inhibitor Discovery." **ACS Omega 2023**, 8 (14), 13232-13242. [Link].

Working Drafts

1. **Bohan Zhang**, Yixin Wang, Paramveer Dhillon. "Policy learning with text-based actions: A causal approach." *In preparation*

2. **Bohan Zhang**, Chengke Bu, Paramveer Dhillon. "Personalized not Persona-fied: Improving Psychological Ownership in AI-Assisted Writing." *In submission for CHI 25*.

3. Yachuan Liu*, **Bohan Zhang***, Qiaozhu Mei, Paramveer Dhillon. "Improving Group Distributional Robustness by Learning to Rank." *In submission for SIGIR '25*. [Preprint Link].

4. **Bohan Zhang***, Yachuan Liu*, Qiaozhu Mei, Paramveer Dhillon. "Exploring Group-Level Signals for Robust Many-Domain Generalization.".

Related Research Experiences

Research Assistant, Dhillon's Research Group

- Project 1: Dynamic sequence optimization in human-AI collaborative writing.

  - Collaborator: Yixin Wang

  - Goals: learn a dynamic causal policy – a sequence of treatments, which are texts generated by humans, to optimize the quality of texts in human-AI collaborative writing.

- Project 2: Personalized AI-Assisted Writing

  - Goals: Develop collaborative human-AI writing tools to enhance writing ownership.

- Project 3: Group distributional robustness; Data leakage in ex-ante inferences.

  - Collaborator: Qiaozhu Mei

– Goals: 1) Improving the robustness by up-weighting groups according to their performance rank 2) Design generalizable meta-learners to learn the rank of groups directly. 3) Teaching LLMs to make ex-ante inferences (unlearning).

Research Assistant, Blablablab Lab   Sep 2020 - Oct 2021

- Advisor: David Jurgens
- Project: Political Heterogeneity in Social Media and Its Implications for Behavioral Analysis.
- Goals: Understanding (1) how the choice in definition of a political user significantly influences behavioral analysis (2) how political users engage and interact with others (2) potential suspicious behavior of users, and (4) how users change their political leanings over time.

Research Assistant, NLP Lab at Texas A&M University   May 2019 - Aug 2019

- Advisor: Ruihong Huang
- Project: Predicting sentence deletions in text simplification via a functional discourse structure
- Goals: 1) Exploring how a functional discourse structure correlated with sentence deletions in document-level simplification 2) Using the structure to improve predicting sentence deletions.

Working/Teaching Experiences

Machine Learning Software Engineering, Initium.AI Inc.   May 2021 - Aug 2021

- Deploy action sentence detection model for real-world applications with limited labels.

Instructor Assistant, The Ohio State University   Jan 2019 - May 2020

- Course: CSE 2421 - Introduction to Low-Level Programming and Computer Organization

Honors and Service

ACL Student Volunteer Award   May 2022
Dean's List of Distinguished Students   All Semesters
Regular Reviewer for *CL, WWW, KDD

Skills

Programming languages
Familiar with Python, C, Matlab; Have knowledge in C#, Java, JavaScript
Programming Tools
Pytorch, Linux, OpenGL
English Proficiency
TOEFL 107 (R:27, L:27, S:26, W:27)
GRE: V 157, Q 169