Joyce Zhou (they/them)

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Education

2021 – · · · · ▷ **Ph.D., Cornell University** - Computer Science, minor Information Science
Advisor: Prof. Thorsten Joachims
Research interests: human-AI collaboration, steerability, interpretability, decision auditing, ethics

2019 – 2021 ▷ **M.S., University of Washington Seattle** - Computer Science
Thesis: *An Interactive UI to Support Sensemaking over Collections of Parallel Texts* [8].
Advisor: Prof. Dan Weld
Cumulative GPA 3.93 / 4.0
Highlighted coursework: Natural Language Processing, Adv. Topics in Human-Computer Interaction, Deep Learning, Social Computing, Operating Systems, Programming Languages, Computer Security

2016 – 2019 ▷ **B.S., University of Washington Seattle** - Computer Science, minor Mathematics
Thesis: *Finding and evaluating RNA motifs with CMfinder* [9].
Advisor: Prof. Larry Ruzzo
Cumulative GPA 3.94 / 4.0, *magna cum laude*, 2x Annual Dean's List
Highlighted coursework: Machine Learning, Software Design & Implementation, Data Structures & Parallelism, Data Visualization, Algorithms, Databases, Systems Programming, Computational Biology
Started 2 years early through the Robinson Center UW Academy program.

Research Experience

2022 – · · · · ▷ **GMSE Researcher** with NIST, mentored by Rachael Sexton.

2021 – · · · · ▷ **Graduate Researcher** with Prof. Thorsten Joachims.
Exploring undergraduate admissions [5], the feasibility of explanations as an auditing technique [6, 1], and the affordances of using large language models within recommendation systems [4].

2020 – 2021 ▷ **Graduate Researcher** with Prof. Elena Glassman (Harvard) and Prof. Dan Weld (UW).
Developed an interactive, human-AI collaborative aggregation and visualization method for sensemaking content in research paper abstracts.
Wrote up methods and design process in Master's thesis (readable as preprint paper) [8].

2019 – 2021 ▷ **Graduate Researcher**, Lab for Human-AI Interaction (University of Washington)
Mentored by Gagan Bansal and advised by Prof. Dan Weld.
Developed, implemented, and evaluated a novel adaptive explanation style for human-AI teams on a sentiment analysis task. Analyzed participants' feedback on how AI explanations impacted their decision-making.
Resulted in 2nd-author CHI publication [2]. Also featured in a WHI 2020 spotlight [7].

2018 – 2019 ▷ **Undergraduate Researcher** with Prof. Larry Ruzzo (University of Washington)
Developed a set of tools (*blockmerge* and *crosscompare*) and a pipeline centered on CMfinder to search for potentially structured fRNA sequences across alignment block boundaries and cluster found covariance models.
Wrote up methods and findings in Bachelor's thesis [9].

Teaching Experience

2018 – 2021 ▷ **Teaching Assistant**, University of Washington Seattle
Taught sections of 20+ students and assisted individual students in office hours.
Wrote and reviewed course handouts, homework, and exams.
Graded student programming assignments and exams.
2021 SU: CSE333 Systems Programming (Cosmo Wang)
2021 SP: CSE374 Programming Tools & Concepts (Dr. Megan Hazen)
2021 WI: CSE417 Algorithms & Computational Complexity (Prof. Robbie Weber)
2019 AU: CSE374 Programming Tools & Concepts (Tyler Pirtle)
2019 SP: CSE369 Introduction to Digital Design (Prof. Justin Hsia)
2019 WI: CSE369 Introduction to Digital Design (Prof. Justin Hsia)
2018 AU: CSE331 Software Design & Implementation (Prof. Mike Ernst)
2018 SU: CSE331 Software Design & Implementation (Leah Perlmutter)

Publications

** denotes equal contribution; + denotes significant contribution*

Conference and Journal Papers

[1] **J. Zhou** and T. Joachims, "How to Explain and Justify Almost Any Decision: Potential Pitfalls for Accountability in AI Decision-Making", in *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency*, ser. FAccT '23, Chicago, IL, USA: Association for Computing Machinery, 2023, pp. 12–21, ISBN: 9798400701924. DOI: 10.1145/3593013.3593972. [Online]. Available: https://doi.org/10.1145/3593013.3593972.

[2] G. Bansal*, T. Wu*, **J. Zhou**+, R. Fok+, B. Nushi, E. Kamar, M. T. Ribeiro, and D. S. Weld, "Does the whole exceed its parts? The effect of AI explanations on complementary team performance", in *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, ser. CHI '21, Yokohama, Japan: Association for Computing Machinery, 2021, ISBN: 9781450380966. DOI: 10.1145/3411764.3445717. [Online]. Available: https://doi.org/10.1145/3411764.3445717.

Workshops and Posters

[3] **J. Zhou***, Y. Dai*, and T. Joachims, *Language-based user profiles for recommendation*, WSDM 2024 Workshop on Large Language Models for Individuals, Groups, and Society (LLM-IGS), 2024. DOI: 10.48550/arXiv.2402.15623. [Online]. Available: http://arxiv.org/abs/2402.15623.

[4] **J. Zhou** and T. Joachims, *GPT as a Baseline for Recommendation Explanation Texts*, RecSys 2023 10th Joint Workshop on Interfaces and Human Decision Making for Recommender Systems (IntRS), 2023.

[5] J. Lee, B. Thymes, **J. Zhou**, T. Joachims, and R. Kizilcec, *Augmenting Holistic Review in University Admission using Natural Language Processing for Essays and Recommendation Letters*, AIED 2023 Workshop on Equity, Diversity, and Inclusion in Educational Technology Research and Development (EDI in EdTech R&D), 2023. arXiv: 2306.17575 [cs.CL]. [Online]. Available: http://arxiv.org/abs/2306.17575.

[6] **J. Zhou** and T. Joachims, *How to explain and justify almost any decision: Potential pitfalls for accountability in AI decision-making*, IJCAI 2022 2nd Workshop on Adverse Impacts and Collateral Effects of Artificial Intelligence Technologies (AIofAI), 2022.

[7] G. Bansal*, T. Wu*, **J. Zhou**+, R. Fok+, B. Nushi, E. Kamar, M. T. Ribeiro, and D. S. Weld, *Does the whole exceed its parts? The effect of AI explanations on complementary team performance*, ICML 2020 Workshop on Human Interpretability in Machine Learning (WHI), 2020. arXiv: 2006.14779 [cs.AI]. [Online]. Available: https://arxiv.org/abs/2006.14779.

Preprints

[8] **J. Zhou**, E. Glassman, and D. S. Weld, "An interactive UI to support sensemaking over collections of parallel texts", Master's thesis, 2021, 2021, [Online]. Available: https://arxiv.org/abs/2303.06264.

[9] **J. Zhou** and L. Ruzzo, "Finding and evaluating RNA motifs with CMfinder", Bachelor's thesis, 2019, [Online]. Available: https://cephcyn.github.io/pub/2019-bachelors_thesis.pdf.

Honors & Awards

2021 ▷ **GFSD fellow** (formerly known as NPSC) - working with NIST

2018 ▷ **Phi Beta Kappa**, honor society, top 10%, focus on liberal arts and sciences.

Service

Conference Reviewing

2024 ▷ WWW 2024 (Responsible AI track)

Workshop Program Committees

▷ **Workshop on Trust and Reliance in Evolving Human-AI Workflows (TREW)**, CHI 2024

2023 ▷ **Workshop on Trust and Reliance in AI-Human Teams (TRAIT)**, CHI 2023

2022 ▷ **Workshop on Human-Machine Collaboration and Teaming (HMCaT)**, ICML 2022

▷ **Workshop on Trust and Reliance in AI-Human Teams (TRAIT)**, CHI 2022

Service (continued)

Volunteering

2021-2024 ▷ **Expanding Your Horizons (EYH)** workshop volunteer and leader. (EYH is a yearly conference hosted at Cornell designed to help grade school students to explore topics in STEM.)

Misc

2024 ▷ WWW 2024 - Artifact Badging