

## RESEARCH AREAS

Ruyuan's research explores Human-Computer Interaction (HCI), Natural Language Processing (NLP), and Social Computing, focusing on communication dynamics in human-human and human-AI interactions, such as annotation disagreement in subjective data, logic fallacy detection in misinformation narratives, and user behavior analysis in social media.

## EDUCATION

2024 - 2028 Exp.	<b>Pennsylvania State University</b> , State College, PA Ph.D. Student in Computer Science Advisor: Ting-Hao (Kenneth) Huang
2022 - 2024	<b>University of Notre Dame</b> , South Bend, IN M.S. Computer Science and Engineering Advisor: Karla Badillo-Urquiola
2016 - 2022	<b>University of Minnesota</b> , Minneapolis, MN M.A. in Linguistics & M.S. in Data Science Advisor: Lana Yarosh, Dongyeop Kang B.A. in Statistics

## AWARDS & HONORS

2024	Pennsylvania State University Jordan Rednor Award (\$3000)
2023 - 2024	University of Notre Dame Lucy Graduate Scholar (\$3000)
2023	AAAI-23 Student Scholarship (\$1000)
2021	University of Minnesota Fellowship from the Institution of Linguistics (\$2000)
2020	Outstanding Poster at ACM - Computer Supported Cooperative Work (CSCW)
2016 - 2018	University of Minnesota Culture Corps Award (\$500)
2018	University of Minnesota Linh's Undergrad Internship Award (\$2000)
2016	University of Minnesota Dean's List Award

## PEER-REVIEWED CONFERENCE PAPERS

- C.4 **Ruyuan Wan**, Lingbo Tong, Tiffany Kneare, Toby Jia-Jun Li, Ting-Hao Kenneth Huang, Qunfang Wu. "Hash-tag Re-appropriation For Audience Control on Recommendation-driven Social Media Xiaohongshu." *Under Submission*
- C.3 Min-Hsuan Yeh, **Ruyuan Wan**, Ting-Hao Kenneth Huang. "CoCoLoFa: A Dataset of News Comments with Common Logical Fallacies Written by LLM-Assisted Crowds." *In Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP 2024)*.
- C.2 Zainab Agha, Jinkyung Park, **Ruyuan Wan**, Naima Samreen Ali, Yiwei Wang, Dominic Difranzo, Karla Badillo-Urquiola, Pamela J. Wisniewski. "Tricky vs. Transparent: Towards an Ecologically Valid and Safe Approach for Evaluating Online Safety Nudges for Teens." *In Proceedings of the CHI Conference on Human Factors in Computing Systems, pp. 1-20 (CHI 2024)*.
- P.1 **Ruyuan Wan**, Jaehyung Kim, Dongyeop Kang. "Everyone's Voice Matters: Quantifying Annotation Disagreement Using Demographic Information." *In Proceedings of the AAAI Conference on Artificial Intelligence, vol. 37, no. 12, pp. 14523-14530 (AAAI 2023)*.

## PEER-REVIEWED POSTERS, WORKSHOP PAPERS

- P.5 **Ruyuan Wan**, Simret Gebreegziabher, Toby Jia-Jun Li, Karla Badillo-Urquiola  
CoCo Matrix: Taxonomy of Cognitive Contributions in Co-writing with Intelligent Agents  
*In Proceedings of the 16th Conference on Creativity & Cognition (C&C 2024).*
- P.4 **Ruyuan Wan**, Jie Gao  
Leveraging the Strengths of Qualitative Analysis to Improve Data Annotation  
*CHI 2024 Workshop on Large Language Models as Research Tools*
- P.3 London Lowmanstone, **Ruyuan Wan**, Risako Owan, Jaehyung Kim, Dongyeop Kang  
Annotation Imputation to Individualize Predictions: Initial Studies on Distribution Dynamics and Model Predictions  
*In Proceedings of the Second Workshop on Perspectivist Approaches to NLP, ECAI 2023*
- P.2 **Ruyuan Wan**, Naome Etori, Karla Badillo-Urquiola, Dongyeop Kang  
User or Labor: An Interaction Framework for Human-Machine Relationships in NLP  
*In Proceedings of the Fourth Workshop on Data Science with Human-in-the-Loop (Language Advances), EMNLP 2022*
- 🏆 P.1 **Ruyuan Wan**, Zachary Levonian, and Svetlana Yarosh  
How much is a "like" worth? Engagement and Retention in an Online Health Community  
*In Companion Publication of the 2020 Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2020). Outstanding Poster Recognition*

## INDUSTRY EXPERIENCE

- Oct 2021 – Jan 2022    **NLP Research Intern**, Samsung Research America Inc. Mountain View, CA, US  
Reviewed academic papers, reproduced baseline models, and developed a state-of-the-art coreference resolution model for long dialogues.
- July 2021 – Sept 2021    **Data Science Intern**, Tencent. Shenzhen, China  
Processed data using SQL and Spark, applied XGBoost for churn rate prediction, and developed a BERT-based recommendation system integrating users' sequential behavior and social networks.
- June 2020 – Aug 2020    **Data Science Intern**, Ecolab. Eagan, MN, US  
Built an end-to-end ML pipeline with Microsoft Azure and developed LSTM models for inventory usage forecasting, improving prediction accuracy by 10%.
- July 2019 – Aug 2019    **Data Science Intern**, Michael J Fox Foundation for Parkinson's Research. Manhattan, NY, US  
Conducted statistical analysis and survival analysis in R to uncover patterns among study participants and provided recommendations for improving study participation.



## TEACHING EXPERIENCE

2024 SP, 2023 SP	<b>CSE 40175 Ethical and Professional Issues</b> , University of Notre Dame
2023 FA	<b>CSE 10101 Elements of Computing</b> , University of Notre Dame
2022 FA	<b>CSE 20110 Discrete Mathematics</b> , University of Notre Dame
2021 SP	<b>MSBA 6420 Predictive Analytics</b> , University of Minnesota
2020 SP	<b>CSCI 5521 Introduction to Machine Learning</b> , University of Minnesota
2021 SP, 2020 FA, 2019 SP, 2019 FA, 2018 FA	<b>CSCI 2011 Discrete Mathematics</b> , University of Minnesota
2018 SP	<b>STAT 3011 Introduction to Statistical Analysis</b> , University of Minnesota

## SERVICE

<b>Associate Chair</b>	CSCW 2024 Paper Track, CSCW 2023 Poster Track
<b>Committee Member</b>	The Seventh Workshop on Online Abuse and Harms at ACL 2023 The Second Workshop on Intelligent and Interactive Writing Assistants at CHI 2023
<b>Workshop Organizer</b>	NeurIPS 2024 Workshop on Pluralistic Alignment CSCW 2023 Workshop on Community-driven AI
<b>Session Chair</b>	CHI 2024 Session on Politics of Datasets
<b>Reviewer</b>	LREC-COLING 2024, ICLR 2024, IJCAI 2024, ICML 2024, DIS 2024, ACL ARR 2024, C&C 2024 AAAI 2024, FAccT 2023 – 2024, NeurIPS 2023, CSCW 2024, CHI 2022 – 2023
<b>Student Volunteer</b>	CHI 2023 – 2024, CSCW 2023, FAccT 2023, AAAI 2023, EMNLP 2022, ACL 2022
<b>Research Mentor</b>	ND CSE Undergrad Summer Enrichment Program 2024
<b>Social Chair</b>	Graduate Society of Women Engineers (SWE) 2023 – 2024
<b>Committee Member</b>	ND CSE DEI Committee, 2023 – 2024

## MEDIA COVERAGE

- M.1  **Image Synthesis Has an SEO Problem**  
Metaphysic Blog, Martin Anderson, January 24, 2023
- M.2  **M.S. student receives Outstanding Poster recognition at CSCW 2020**  
UMN CSE News, Crystal King, November 3, 2020

## GRANTS

November 2023	WiNLP Workshop at EMNLP Travel Grant (\$500)
June 2023	ACM Travel Grant for FAccT 2023 (\$450)
February 2023	Nanovic Institute For European Studies Graduate Grant (\$2000)
2023 – 2024	CSE Career Development Grant (\$750)
2023 – 2024	Writing Accountability Group Grant (\$480)
2022 – 2024	Notebaert Professional Development Fund (\$1500)
2022 – 2024	Graduate Student Government Conference Presentation Grant (\$680)

## SKILLS

**Programming Languages:** Python, R, SQL, JavaScript, HTML, and others

**NLP, Machine Learning, and Statistics:** GPT, Hugging Face, TensorFlow, PyTorch, Spacy, Gensim, NLTK, BERT-based models, transformer models, classification, clustering, regression, hypothesis testing, Bayesian analysis, data visualization, and more

**Qualitative Analysis:** Thematic analysis, grounded theory, interviews, formative study, persona analysis, participatory design, and more

**Interface Design, Prototyping, & Development:** Figma, Photoshop, Sketch, storyboarding, React, and more