

# Zhenduo Wang

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**EDUCATION**      **University of Utah, Salt Lake City, UT**      Aug. 2018 - Present  
Ph.D. candidate in Computer Science (Advised by Prof. Qingyao Ai and Prof. Vivek Srikumar)  
**Thesis title:** Modeling Mix-initiative Conversational Search

**University of Minnesota Duluth, Duluth, MN**      Sept. 2016 - May 2018  
M.S. Mathematics (Co-advised by Prof. Yang Li and Prof. Ted Pedersen)

**Dalian University of Technology, Dalian, China**      Sept. 2012 - Jun. 2016  
B.E. student in Department of Software Engineering

**RESEARCH EXPERTISE**      I have previously worked on many Natural Language Processing and Information Retrieval tasks, particularly conversational AI systems and natural language generation. I am also experienced with Reinforcement Learning and Imitation Learning, as they played an important part in my past research.

**PUBLICATIONS**      **Zhenduo Wang**, Yuancheng Tu, Corby Rosset, Nick Craswell, Ming Wu, and Qingyao Ai. Zero-shot Clarifying Question Generation for Conversational Search. To appear in The Web Conference 2023 (WWW).

Tao Yang, Zhichao Xu, **Zhenduo Wang**, Anh Tran, and Qingyao Ai. Marginal-Certainty-aware Fair Ranking Algorithm. To appear in Web Search and Data Mining Conference 2023 (WSDM).

**Zhenduo Wang** and Qingyao Ai. Simulating and Modeling the Risk of Conversational Search. In ACM Transactions on Information Systems (TOIS)

**Zhenduo Wang** and Qingyao Ai. Controlling the Risk of Conversational Search via Reinforcement Learning. In The Web Conference 2021 (WWW).

**Zhenduo Wang** and Ted Pedersen. UMDSUB at SemEval-2018 Task 2: Multilingual Emoji Prediction Multi-channel Convolutional Neural Network on Subword Embedding. In SemEval@NAACL-HLT 2018

Kevin Swanberg and Madiha Mirza and Ted Pedersen and **Zhenduo Wang**. ALANIS at SemEval-2018 Task 3: A Feature Engineering Approach to Irony Detection in English Tweets. In SemEval@NAACL-HLT 2018

## TALKS

### Conference Presentations

- “Zero-shot Clarifying Question Generation for Conversational Search.” To appear in The Web Conference 2023 (WWW).
- “Controlling the Risk of Conversational Search via Reinforcement Learning.” The Web Conference 2021 (WWW).

### Invited Talks

- “Controlling the Risk of Conversational Search via Reinforcement Learning.”  
SCAI: Search-Oriented Conversational AI Workshop at SIGIR Conference 2022.

## WORK EXPERIENCE

### Research Intern at Microsoft

*May. 2022 - Aug. 2022*

- Conducted research about Zero-shot Clarifying question generation for conversational search and published in The Web Conference 2023 (WWW).

### Machine Learning Intern at Roku Inc.

*May. 2021 - Aug. 2021*

- Conducted online and offline unbiased learning-to-rank for Roku’s Search system.

### Data Scientist Intern at American Family Insurance *May. 2019 - Aug. 2019*

- Developed, tested and refined a BERT based Multi-Task Learning model for home issue classification.

## TEACHING EXPERIENCE

### Calculus I, II, III

*Sep. 2018 - Dec. 2019*

- Teaching assistant and discussion session lecturer

### Image Processing

*Sep. 2019 - Dec. 2019*

- Teaching assistant.

### Data Mining

*Jan. 2021 - May. 2021*

- Teaching assistant.

## DEVELOPING EXPERIENCE

### Magic Circle: A Card Video Game

*Jan. 2014 - Apr. 2015*

- Fully designed and developed a card game with Unity3D engine.
- Won the third prize in the Microsoft Imagine Cup Game Competition 2015.  
Video: [https://v.youku.com/v\\_show/id\\_XOTIyNzAxNjAw.html](https://v.youku.com/v_show/id_XOTIyNzAxNjAw.html)  
Project: <https://github.com/zhenduow/TMC>

## HONOR AND AWARDS

Outstanding Graduate Student Award at University of Minnesota Duluth	2018
Outstanding Graduate Teaching Assistant at University of Minnesota Duluth	2018
Meritorious Winner (1 <sup>st</sup> prize) in Mathematical Contest In Modeling	2016
3 <sup>rd</sup> prize in Microsoft Imagine Cup Games Competition	2015
Outstanding Academic Work Scholarship at Dalian University of Technology	2014
Provincial 1 <sup>st</sup> prize, National 3 <sup>rd</sup> prize of Chinese Mathematical Competition	2013