

Zhenduo Wang

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EDUCATION **University of Utah, Salt Lake City, UT** Aug. 2018 - Present
Ph.D. student in Computer Science

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 INTERESTS My research interest lies mainly in Natural Language Processing and Information Retrieval. I am especially interested in dialogue system, question answering and query understanding. I am also interested in machine learning in general.

SKILLS **Languages:** Python, Matlab, C, C++, C#, Perl, SQL
Tools: pytorch, Keras, scikit-learn, nltk, Sempire

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

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: 395-399

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: 507-511

RESEARCH EXPERIENCE **Evaluate Natural Language Generation models by ranking metrics** University of Utah

Jan. 2020 - June. 2020

- Design a ranking based metric to evaluate NLG models based their score for different variations of gold reference.

Solving Cryptic Crossword Puzzles

University of Utah

Mar. 2019 - May. 2019

- Train machine to solve Cryptic crossword puzzles using seq2seq net.

Solving Math Word Problem Automatically

University of Utah

Sept. 2018 - Dec. 2018

- Solve Math Word Problem by determining the question(operation) type and the operands from the problem in text.
- Classify operation type using a CNN network.

- Classify operands using feature engineering and SVM.

Text Embedding Methods on Different Levels for Tweets Authorship Attribution

University of Minnesota Duluth

Sept. 2017 - Mar. 2018

- Explored character, sub-word, word, and document based embeddings based on Convolutional Neural Networks. The goal is to test if we can represent text efficiently beyond the word level.

Learned-Diffusion Process for Image Super-Resolution

Dalian University of Technology

Mar. 2016 - Jun. 2016

- Approximated a numerical PDE solver with recursive convolution neural network for image super-resolution.
- The model automatically learns parameters for the PDE solver and performs well in experiments.

**WORK
EXPERIENCE**

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.
- Organized and launched data annotation tasks in an efficient and productive manner with third-party labeling platform.
- Conducted LDA topic modeling to identify topic distribution natures in our dataset.

**DEVELOPING
EXPERIENCE**

Magic Circle: A Card Video Game

Jan. 2014 - Apr. 2015

- Designed and developed a card game with Unity3D engine.
- Won the third prize in the Imagine Cup Game Competition 2015.
https://v.youku.com/v_show/id_XOTIyNzAxNjAw.html

**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 st prize) in Mathematical Contest In Modeling	2016
3 rd prize in Microsoft Imagine Cup Games Competition	2015
Outstanding academic work Scholarship at Dalian University of Technology	2014
Provincial 1 st prize, National 3 rd prize of Chinese Mathematical Competition	2013