

# ZHENDONG WANG

Address: 4700 W Guadalupe St, Apt. A222, Austin, TX 78751

E-mail: zhendong.wang@utexas.edu Tel.: +1 (646) 220 2148

## EDUCATION

### The University of Texas, Austin

*PhD in Statistics & Data Science, GPA: in progress*

Austin, TX

Expected May.2025

### Columbia University

*M.S. in Data Science, GPA: 4.0/4.0*

New York, NY

Sep.2018-Dec.2019

Relevant Courses: Algorithms, Reinforcement Learning, NLP, Bayesian Method Machine Learning

### Tongji University

*B.S. in Civil Engineering, GPA: 90.45/100*

Shanghai, CN

Sep.2014-Jul.2018

## PUBLICATIONS

- Zhendong Wang and Mingyuan Zhou.  
*Thompson Sampling via Local Uncertainty.*  
*In International Conference on Machine Learning, 2020.*
- Xinjie Fan, Yizhe Zhang, Zhendong Wang and Mingyuan Zhou.  
*Adaptive Correlated Monte Carlo for Contextual Categorical Sequence Generation.*  
*In International Conference on Learning Representations, 2020.*
- Anonymous\*, Zhendong Wang\* and Anonymous.  
*Implicit Distributional Reinforcement Learning.*  
*In Neural Information Processing Systems, 2020 (Under Review).*

## TECHNICAL SKILLS

- **Programming Languages:** Python (Numpy, Scikit-Learn, Matplotlib, ...), Java, R, MySQL
- **Deep Learning Packages:** Tensorflow, Pytorch
- **Language:** Chinese, English

## RESEARCH EXPERIENCE

### Graduate Research Assistant

Summer 2019

*Department of Statistics & Data Science, University of Texas, Austin*

Topic 1: Correlated MC for Categorical Sequence Generation

- Engaged in the Augmented-Reinforce-Swap-Merge (ARSM) gradient approximator derivation for contextual categorical sequence generation.
- Used ARSM approximator to implement adaptive correlated Monte Carlo based policy gradient for sequence generation, in Pytorch.
- Evaluated our proposed correlated MC policy gradient method on image captioning and neural program synthesis (NPS) tasks.
- Compared our correlated MC based method with independent ones, and found that our model achieved greater variance reduction and could adaptively modify the number of MC samples according to the uncertainty on token generation.

Topic 2: Thompson Sampling with Local Uncertainty

- Developed a new probabilistic modeling framework for Thompson sampling with the power of local variable uncertainty.
- Merged semi-implicit variational inference structure into the framework to further improve the expressiveness of latent distribution.
- Evaluated our framework on classical sequence decision making problem, contextual bandits, with comparison to current state-of-the-arts baselines, which leverages the global variable uncertainty.
- Found that local uncertainty based framework can capture the underlying uncertainty in data well, and achieved state-of-the-arts performance, while having low computational complexity.

## PROJECTS

### Columbia Data Science Hackathon 2018, CU

Fall 2018

- Cleaned and explored Bitcoin related dataset (Reddit comment data and BTC transaction data).
- Analyzed the polarity of Bitcoin comments by NLP tools.
- Analyzed the relationship between comment polarity and tendency of Bitcoin price.