ZHENDONG WANG

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EDUCATION

The University of Texas, Austin Austin, TX
PhD in Statistics & Data Science, GPA: in progress Expected May.2024

Columbia University New York, NY
M.S. in Data Science, GPA: 4.0/4.0 Sep.2018-Dec.2019
Relevant Courses: Algorithms, Reinforcement Learning, NLP, Bayesian Method Machine Learning

Tongji University Shanghai, CN
B.S. in Civil Engineering, GPA: 90.45/100 Sep.2014-Jul.2018

PUBLICATIONS

- Yuguang Yue*, Zhendong Wang* and Mingyuan Zhou. (* equally contributed)
  Implicit Distributional Reinforcement Learning.
  In Neural Information Processing Systems, 2020.
- 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.

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 & Spring 2020**
Department of Statistics & Data Science, the University of Texas, Austin
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.

Topic 2: Implicit Distributional Reinforcement Learning

- Leveraging the power of distributional reinforcement learning, we proposed deep generator networks (DGN) as an implicit distributional Q-function.
- Replaced the common Gaussian policy with a semi-implicit actor (SIA), powered by a flexible policy distribution.
- We incorporate these features with an off-policy algorithm framework to solve problems with continuous action space.
- Evaluated our algorithm (IDAC) on RL benchmark tasks (MuJoCo environments) and shown state-of-the-art performance over other baselines.

PROJECTS

Superresolution and Prediction of Ocean Sea-Surface Temperature **Fall 2019**

- Implemented the proposed Super Resolution Generative Adversarial Network (SRGAN).
- Evaluated the SRGAN model on the one channel ocean temperature data with 4x resolution upscaling.
- Designed regularization term in objective function to make the generated new ocean temperature data satisfying ocean physical constraints.