
Haoxiang Wang

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Homepage: <https://qingxu-thu.github.io>

Education

Tsinghua University, Mechanical engineering	2015.9-2019.7
Department of thermal and power engineering	
•Rank:9/81	
Tsinghua University, PBC School of Finance	2016.9-2019.7
Finance minor	
Tsinghua University, IIIS	2019.9
Department of computer science	

Research

Vulnerability analysis of data-driven pricing mechanism 2019.9-2020.9

- Focus on the problem of attack against simple clustering pricing mechanism
- Research on the problem of influence for K-means driving pricing mechanism

Pub: 1.Jingshi Cui, **Haoxiang Wang**, Chenyu W, Vulnerability Analysis for Data Driven Pricing Schemes, **accepted** by IEEE PES General Meeting 2020.

2.Jingshi Cui, **Haoxiang Wang**, Chenye Wu, Yang Yu, “Robust Data-driven Profile-based Pricing Schemes”, **accepted** by IEEE ISGT NA 2021.

Differential Privacy and machine learning based consumer behavior analysis in electricity market 2019.9-2021.9

- Design non-intrusive load monitoring algorithm that is used for the consumer behavior analysis and analyze the influence of the differential privacy mechanism

Pub: 1.**Haoxiang Wang** and Chenyu Wu. 2020. Understanding Differential Privacy in Non-Intrusive Load Monitoring, **accepted** by e-Energy '20.

2.**Haoxiang Wang**, Jiasheng Zhang, Chenbei Lu, and Chenye Wu. Privacy Preserving in Non-Intrusive Load Monitoring: A Differential Privacy Perspective, **accepted** by IEEE Transactions on Smart Grid

- Theoretically analyze the privacy preservation for the clustering in consumer behavior analysis

Pub: **Haoxiang Wang**, Xun Luo, and Chenye Wu, Differential Privacy in Consumer Behavior Analysis, **accepted** by IEEE PES General Meeting 2021.

Distributed Deep Learning Algorithm in Fault diagnosis 2019.9-2020.9

- Design distributed deep learning algorithms based on the data characteristics in fault diagnosis and verify its effectiveness

Pub: **Haoxiang Wang**, Chao Liu, Dongxiang Jiang and Zhanhong Jiang, Collaborative deep learning framework for fault diagnosis in distributed complex systems, **accepted** by Mechanical Systems and Signal Processing

Research on the delay problem in distributed deep learning 2020.9-2021

- Conduct analysis on the delay problem in distributed deep learning problem

Pub: **Haoxiang Wang**, Zhanhong Jiang and Chao Liu, PC-ASGD: Predicting

Clipping Asynchronous SGD. NeurIPS 2021, under review

Optimal green certificate auction considering Economic Dispatch 2020.9-

- Design green certificate auction considering economic dispatch and analyze its sample complexity

Working Paper: **Haixiang Wang**, Chenye Wu, Optimal Green Certificate Auction Considering Economic Dispatch

Federated Learning with Non-IID Data 2021.2-

- Design and analyze a Fed-shift method for Federated learning with non-IID data.

Pub: Yunheng Shen, **Haixiang Wang**, Hairong Lv, Federated Learning with Classifier Shift for Class Imbalance. NeurIPS 2021, under review

Research on Fast Neural Thompson Sampling 2021.2-2021.5

- Analyze the neural Thompson sampling for fast implementation with variance of the only last layer

Pub: Yuhai Song, Lu Wang, HM D, Wang Zhe, **Haixiang Wang**, Thompson Sampling Based on Deep Representation. NeurIPS 2021, under review

Research on Robust Optimization and Chance Constraint 2020.11-

- Analyze the relationship between robust optimization and chance constraint in economic dispatch for the electricity sector

Pub: Nan Gu, **Haixiang Wang**, Jiangsheng Zhang, Chenye Wu, Bridging Chance-constrained and Robust Optimization in an Emission-aware Economic Dispatch with Energy Storage. IEEE transactions on Power System 2021, under review (Top for the electrical engineering)

Internship

Internship in Tianhong Asset Management 2016.07

- Take part in the daily monitoring of the department of risk management; conduct simple studies for the bonds

Internship in Haihua Institute For Frontier Information Technology 2018.7-2018.8

- Conduct electricity data analysis, submit the application for the patent "Data Processing Methods, Systems and Storage Media for Electricity Data"

Internship in Ubiquant Investment (Beijing) 2019.10-2019.12

- Try to Conduct analysis on factors through deep learning

Internship in Alibaba Advertisement department 2021.06-

- Predict the looking through rate and adopt it in rearrangement process

Honor

Academic excellence scholarship of Tsinghua university 2015—2016,2016-2017

Mathematical Contest In Modeling Honorable Mention 2018

Excellent graduate of Tsinghua University 2019.9

The spatiotemporal prediction competition of transport state held by CCF and Didi (Rank:13/201) 2020.9-2020.12