Caixing Wang

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Experience

The Chinese University of Hong Kong *Aug 2024 – Now*
Postdoc in Statistics

- Mentor: Professor Junhui Wang

Education

Shanghai University of Finance and Economics *Sept 2019 – June 2024*
Ph.D. in Statistics

- Supervisor: Professor Xingdong Feng, Associate Professor Xin He

Shanghai University of Finance and Economics *Sept 2015 – June 2019*
B.S. in Statistics

Research Interets

Statistical Machine Learning; Kernel Methods; Quantile Regression; Large-scale and Distributed Data Analysis; Deep Learning

Journal Publications (∗ and † refer to corresponding author and equal contributions (or Alphabet ordering))

[1]. Deep nonparametric quantile regression under covariate shift. Xingdong Feng†, Xin He*†, Yuling Jiao†, Lican Kang*†, **Caixing Wang**†. **Journal of Machine Learning Research** 25 (385), 1-50.

[2]. Communication-efficient nonparametric quantile regression via random features. **Caixing Wang**, Tao Li, Xinyi Zhang, Xingdong Feng, Xin He*. **Journal of Computational and Graphical Statistics**, 2024, 33(4), 1175–1184.

[3]. A lack-of-fit test for quantile regression process models. Xingdong Feng*, Qiaochu Liu, **Caixing Wang**. **Statistics & Probability Letters** 192, 109680, 2023.

Conference Publications

[4]. Distributed high-dimensional quantile regression: estimation efficiency and support recovery. **Caixing Wang***, Ziliang Shen. **International Conference on Machine Learning(Spotlight)** , 2024, 235: 51415-51441.

[5]. Optimal kernel quantile learning with random features. **Caixing Wang**, Xingdong Feng*. **International Conference on Machine Learning (Spotlight)**, 2024, 235: 50419-50452.

[6]. Towards theoretical understanding of learning large-scale dependent data via random features. Chao Wang, Xin He*, Xin Bing, **Caixing Wang***. **International Conference on Machine Learning (Spotlight)**, 2024, 235: 50118-50142.

[7]. Towards a unified analysis of kernel-based methods under covariate shift. Xingdong Feng†, Xin He†, **Caixing Wang***†, Chao Wang†, Jingnan Zhang†. **Advances in Neural Information Processing Systems**, 2023, 36: 73839-73851.

Preprints

[8]. Optimal transfer learning for kernel-based nonparametric regression. Chao Wang†, **Caixing Wang**†, Xin He, Xingdong Feng. **Major Revision in Journal of American Statistical Association.**

[9]. Estimation and inference on distributed high-dimensional quantile regression: double-smoothing and debiasing. **Caixing Wang**, Ziliang Shen, Shaoli Wang, Xingdong Feng. **Under review in Journal of Machine Learning Research.**

[10]. Generalization properties of robust learning with random features. **Caixing Wang**, **Under review in IEEE Transactions on Pattern Analysis and Machine Intelligence.**

[11]. Distributed learning for adaptive and robust nonparametric regression. **Caixing Wang**. **Under review in IEEE Transactions on Information Theory.**

[12]. Improved analysis for spectral algorithms under weak Assumptions. **Caixing Wang**. **In preparation.**

[13]. High-dimensional differentially private quantile regression: distributed estimation and statistical inference. Ziliang Shen, **Caixing Wang**, Yibo Yan. **In preparation.**

[14]. Quadratic majorization minorization with extrapolation with application to kernel regularized learning. Qiang Heng, **Caixing Wang**. **In preparation.**

Reviewer Services

Journal: *The Annals of Applied Statistics, Journal of Computational and Graphical Statistics, Statistica Sinica, Journal of Parallel and Distributed Computing*

Conference: *International Conference on Learning Representations*, *Neural Information Processing Systems*

Open-source Software

- **DisRFKQR**: R package for "Communication-efficient nonparametric quantile regression via random features" accepted by JCGS.
- **DQR-covariate-shift**: Python package for "Deep nonparametric quantile regression under covariate shift" accepted by JMLR.
- **DHSQR**: R package for "Distributed high-dimensional quantile regression: estimation efficiency and support recovery" accepted by ICML.
- **Kernel-CS**: Python package for "Towards a unified analysis of kernel-based methods under covariate shift" accepted by NEURIPS.

Talks

International Conference on Statistics, Data Science and Artificial Intelligence (2024) *CCUT, Changchun*

- Deep quantile regression under covariate shift

The 1st International Conference for PhD Pioneers (2024) *RUC, Bejing*

- Optimal transfer learning for kernel-based nonparametric regression

The 2nd Conference for Chinese Statistical Association of Young Scholars (2024) *JNU, Xuzhou*

- Towards a unified analysis of kernel-based methods under covariate shift

Teaching Experience

Teaching Assistant *2020-2024*

- Undergraduate Courses: Survival analysis, Extreme value theory.

Skills

- **Language:** Strong reading, writing and speaking competencies for English and Chinese.
- **Programming:** Python, R, C++.
- **Operating Systems:** Windows, MacOS, Linux.
- **Documentation:** LATEX, Markdown, MS Office.