YAQI DUAN

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ACADEMIC POSITIONS

Massachusetts Institute of Technology Cambridge, MA
Postdoc, hosted by Professor Martin J. Wainwright 2022 – 2023

New York University, Stern School of Business New York, NY
Incoming Assistant Professor in the Department of Technology, Operations, and Statistics 2023 –

EDUCATION

Princeton University Princeton, NJ
Ph.D. in Operations Research and Financial Engineering 2017 – 2022

Peking University Beijing, China
B.S. in Mathematics 2013 – 2017

SELECTED AWARDS AND HONORS

- IMS Lawrence D. Brown Ph.D. Student Award, *Institute of Mathematical Statistics* 2023
- EECS Rising Star, *Massachusetts Institute of Technology* 2021
- Gordon Y. S. Wu Fellowship in Engineering, *Princeton University* 2017 – 2021

PUBLICATIONS AND PREPRINTS

Journal publications and preprints

- Policy evaluation from a single path: Multi-step methods, mixing and mis-specification.
  Duan, Y., Wainwright, M. J.
  arXiv:2211.03899.
- Optimal policy evaluation using kernel-based temporal difference methods.
  Duan, Y., Wang, M., Wainwright, M. J.
  arXiv:2109.12002. *2023 IMS Lawrence D. Brown Ph.D. Student Award*
- Adaptive and robust multi-task learning.
  Duan, Y., Wang, K.
  arXiv:2202.05250.
- Adaptive low-nonnegative-rank approximation for state aggregation of Markov chains.
  Duan, Y., Wang, M., Wen, Z., Yuan, Y.
  SIAM Journal on Matrix Analysis and Applications (SIMAX), 41(1):pp. 244-278, 2020.
- Learning good state and action representations via tractable tensor decomposition.
  Ni, C., Zhang, A., **Duan, Y.**, Wang, M.
  Minor revision at *Journal of Machine Learning Research (JMLR), 2022+*.

Conference publications and preprints

- Near-optimal offline reinforcement learning with linear representation: leveraging variance information with pessimism.
  Yin, M., **Duan, Y.**, Wang, M., Wang, Y.
  International Conference on Learning Representations (ICLR) 2022.
- Risk bounds and Rademacher complexity in batch reinforcement learning.
  Duan, Y., Jin, C., Li, Z.
  International Conference on Machine Learning (ICML) 2021.
- Bootstrapping statistical inference for off-policy evaluation.
  Hao, B., Ji, X., **Duan, Y.**, Lu, H., Szepesvári, C., Wang, M.
  International Conference on Machine Learning (ICML) 2021.
- Sparse feature selection makes reinforcement learning more sample efficient.
  Hao, B., **Duan, Y.**, Lattimore, T., Szepesvári, C., Wang, M.
  International Conference on Machine Learning (ICML) 2021.
- Learning good state and action representations via tractable tensor decomposition.
  Ni, C., Zhang, A., **Duan, Y.**, Wang, M.
  IEEE International Symposium on Information Theory (ISIT) 2021.
- Minimax-optimal off-policy evaluation with linear function approximation.
  Duan, Y., Wang, M.
  International Conference on Machine Learning (ICML) 2020.
- State aggregation learning from Markov transition data.
  Duan, Y., Ke, Z., Wang, M.
  Conference on Neural Information Processing Systems (NeurIPS) 2019.
- Learning low-dimensional state embeddings and metastable clusters from time series data.
  Sun, Y., **Duan, Y.**, Gong, H., Wang, M.
  Conference on Neural Information Processing Systems (NeurIPS) 2019.

PRESENTATIONS

• The 2022 INFORMS Annual Meeting	Oct. 2022
• The 2021 INFORMS Annual Meeting	Oct. 2021
• Cornell ORIE Young Researcher Workshop 2021	Oct. 2021
• The 2021 CORS Annual Conference, Canadian Operational Research Society (virtual)	June 2021
• Institute for Artificial Intelligence, Peking University (virtual)	Dec. 2020
• School of Mathematical Sciences, Peking University (virtual)	Oct. 2020
• The 2020 INFORMS Annual Meeting (virtual)	Nov. 2020
• Beijing International Center for Mathematical Research (BICMR)	Nov. 2019
• Cornell ORIE Young Researcher Workshop 2019	Oct. 2019
• Applied Math Days at Rensselaer Polytechnic Institute	Apr. 2019

PROFESSIONAL SERVICES

INFORMS 2020 session co-chair: Statistical reinforcement learning from batch data;
Reinforcement learning and bandit algorithms

Reviewer & programming committee member for:

Annals of Statistics, NeurIPS 2021 & 2020, ICML 2022, 2021 & 2020, AISTATS 2021, ICLR 2021, IEEE ISIT 2021 & 2020, CISS 2020, ICML 2021 workshop on reinforcement learning theory, ICML 2020 workshop on theoretical foundations of reinforcement learning

TEACHING EXPERIENCES

Graduate teaching assistants for:

ORF 245 - *Fundamentals of Statistics*: Spring 2021, Fall 2019, Spring 2019

ORF 309 - *Probability and Stochastic Systems*: Fall 2020

ORF 473 - *Financial Technology and Data-Driven Innovation*: Spring 2020

ORF 363 - *Computing and Optimization for the Physical and Social Sciences*: Fall 2018