

Yiyan HUANG

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ACADEMIC POSITION

Hong Kong Polytechnic University (PolyU)

Hong Kong SAR, China

Postdoctoral Fellow (supervisor: Min Dai), Department of Applied Mathematics

Jan. 2024-Now

Brown University

Providence, Rhode Island, USA

Visiting Research Fellow (supervisor: Toru Kitagawa), Department of Economics

Jan. 2023-Jul. 2023

EDUCATION

City University of Hong Kong (CityU)

Hong Kong SAR, China

Ph.D., Data Science (Supervisor: Qi Wu), School of Data Science

Sep. 2019-Nov. 2023

University of Science and Technology of China (USTC)

Hefei, China

B.Econ., Financial Engineering, Department of Statistics and Finance

Sep. 2015-Jun. 2019

OTHER EXPERIENCE

City University of Hong Kong (CityU)

Hong Kong SAR, China

Teaching Assistant

Sep. 2019-Oct. 2023

- SDSC1001/GE1356 Introduction to Data Science
- SDSC6013 Topics in Financial Engineering and Technology
- SDSC4107 Financial Engineering and Analytics

JD Digit (JDD)

Beijing, China

Risk Management Center-Intelligent Model Researcher

Dec. 2019-Feb. 2020

- Developed credit models to remove selection bias caused by discriminative credit assignment and designed new credit strategies for JD online shopping platform.

RESEARCH INTERESTS

My research interests lie at the intersections of several disciplines, including Data Science, Causal Inference, Machine Learning, and Data-Driven Decision Making. Particularly, most of my work uses machine learning tools to estimate treatment effects in various fields (such as E-commerce, Economics, and Healthcare) and assist policy-makers in personalized decision makings.

PUBLICATIONS

Published Papers

- **Yiyan Huang**, Siyi Wang, Cheuk Hang Leung, Qi Wu, Dongdong Wang, Zhixiang Huang. Representation Balancing with Decomposed Patterns for Treatment Effect Estimation. *Transactions on Machine Learning Research* (TMLR, 2024).
- Yijun Li, Cheuk Hang Leung, Xiangqian Sun, Chaoqun Wang, **Yiyan Huang**, Xing Yan, Qi Wu, Dongdong Wang, Zhixiang Huang. The Causal Impact of Credit Lines on Spending Distributions. *Thirty-seventh Conference on Neural Information Processing Systems* (AAAI-2024).
- Shumin Ma, Zhiri Yuan, Qi Wu, **Yiyan Huang**, Xixu Hu, Cheuk Hang Leung, Dongdong Wang, Zhixiang Huang. Deep into The Domain Shift: Transfer Learning through Dependence Regularization. *IEEE Transactions on Neural Networks and Learning Systems* (TNNLS, 2023).
- **Yiyan Huang**, Cheuk Hang Leung, Shumin Ma, Zhiri Yuan, Qi Wu, Siyi Wang, Dongdong Wang, Zhixiang Huang. Towards Balanced Representation Learning for Credit Policy Evaluation. *The 26th International Conference on Artificial Intelligence and Statistics* (AISTATS-2023).
- Zhiri Yuan, Xixu Hu, Qi Wu, Shumin Ma, Cheuk Hang Leung, Xin Shen, **Yiyan Huang**. A Unified Domain Adaptation Framework with Distinctive Divergence Analysis. *Transactions on Machine Learning Research* (TMLR, 2022).
- **Yiyan Huang**, Cheuk Hang Leung, Shumin Ma, Qi Wu, Dongdong Wang, Zhixiang Huang. Moderately-Balanced Representation Learning for Treatment Effects with Orthogonality Information. *The 19th Pacific Rim International Conference on Artificial Intelligence* (PRICAI-2022).
- **Yiyan Huang**, Cheuk Hang Leung, Xing Yan, Qi Wu, Shumin Ma, Zhiri Yuan, Dongdong Wang, Zhixiang Huang. Robust Causal Learning for the Estimation of Average Treatment Effects. *The 2022 International Joint Conference on Neural Networks* (IJCNN-2022, oral).
- **Yiyan Huang**, Qi Wu, Dongdong Wang, Zhixiang Huang. Interpretable Causal Inference via Causal Graphs. *11th World Congress of the Bachelier Finance Society* (abstract oral presentation at BFS-2022).
- **Yiyan Huang**, Cheuk Hang Leung, Xing Yan, Qi Wu, Nanbo Peng, Dongdong Wang, Zhixiang Huang. The Causal Learning of Retail Delinquency. *The Thirty-Fifth AAAI Conference on Artificial Intelligence* (AAAI-2021).

In Progress

- **Yiyan Huang**, Cheuk Hang Leung, Xing Yan, Qi Wu. Robust Causal Machine Learning of Treatment Effects. *Data Mining and Knowledge Discovery* (DMKD, Under review).
- **Yiyan Huang**, Cheuk Hang Leung, Siyi Wang, Yijun Li, Qi Wu. Unveiling the Potential of Robustness in Selecting Conditional Average Treatment Effect Estimators. (Under review at NeurIPS-2024 and preparing journal version for Management Science).
- Cheuk Hang Leung, **Yiyan Huang (co-first author)**, Yijun Li, Qi Wu. Distributionally Robust Off-Policy Evaluation and Learning with Continuous Treatments (Under review at NeurIPS-2024 and preparing journal version for Management Science).
- Siyi Wang, **Yiyan Huang (co-first author)**, Cheuk Hang Leung, Chaoqun Wang, Qi Wu. A Two-stage Disentangled and Balanced Representation Learning Method for Counterfactual Regression.

Information Sciences (IS, Under review).

- Cheuk Hang Leung, **Yiyan Huang** (co-first author), Yijun Li, Qi Wu. Double Machine Learning for Time-Varying Continuous Treatment Effects. *Journal of Business & Economic Statistics* (JBES, Under review).
- Yijun Li, Cheuk Hang Leung, Xiangqian Sun, Chaoqun Wang, **Yiyan Huang**, Xing Yan, Qi Wu, Dongdong Wang, Zhixiang Huang. Learning Multivariate Asynchronous Time Series for High-Frequency Option Price Forecasting (CIKM-2024, Under review).
- **Yiyan Huang**, Cheuk Hang Leung, Qi Wu. Causal Model Selection for Personalized Decision-Making (working paper).

OTHERS

- Reviewers for IJCAI2021, AISTATS2022, ICML2022, Neurips2022, ICML2023, Neurips2023, ICML2024, Neurips2024, etc.
- Research Tuition Scholarship (CityU, 2022-2023)
- Outstanding Academic Performance Award (CityU, 2022-2023)
- Research Tuition Scholarship (CityU, 2021-2022)
- Outstanding Academic Performance Award (CityU, 2021-2022)
- Outstanding Student Scholarship (USTC, 2017)