

Jingyu He

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Research Interests

FinTech, Machine Learning, Tree, Empirical Asset Pricing, Bayesian Statistics, Causal Inference.

Employment

CITY UNIVERSITY OF HONG KONG

- 2020-now Assistant Professor of Business Statistics, College of Business.
- 2021-now Affiliate Faculty, School of Data Science.

Education

- 2020 Ph.D. in Business Administration (Econometrics), The University of Chicago Booth School of Business.
Advisors: P. Richard Hahn and Nicholas Polson.
- 2020 M.B.A., The University of Chicago Booth School of Business.
- 2016 M.S. in Statistics, The University of Chicago.
- 2014 B.S. in Statistics, University of Science and Technology of China.

Papers

JOURNAL ARTICLES

- 2022 Guanhao Feng, Jingyu He. Factor Investing: A Bayesian Hierarchical Approach. *Journal of Econometrics*, 230.1 (2022): 183-200.
- 2021 Jingyu He, P. Richard Hahn. Stochastic tree ensembles for regularized nonlinear regression. Accepted at *Journal of the American Statistical Association*.
- 2019 Jingyu He, Saar Yalov and P. Richard Hahn. XBART: Accelerated Bayesian additive regression trees. *The 22nd International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2019.
- 2019 P. Richard Hahn, Jingyu He and Hedibert Lopes. Efficient sampling for Gaussian linear regression with arbitrary priors. *Journal of Computational and Graphical Statistics*, 28.1 (2019): 142-154.

2018 P. Richard Hahn, Carlos M. Carvalho, Jingyu He and David Puelz. Regularization and confounding in linear regression for treatment effect estimation. *Bayesian Analysis*, 13.1 (2018): 163-182.

2018 P. Richard Hahn, Jingyu He and Hedibert Lopes. Bayesian factor model shrinkage for linear IV regression with many instruments. *Journal of Business and Economic Statistics*, 36.2 (2018): 278-287.

WORKING PAPER

2022 Lin William Cong, Guanhao Feng, Jingyu He and Junye Li. Uncommon Factors for Bayesian Asset Clusters.

2022 Lin William Cong, Guanhao Feng, Jingyu He and Xin He. Asset Pricing with Panel Trees Under Global Split Criteria.

2022 Meijia Wang, Jingyu He and P. Richard Hahn. Local Gaussian process extrapolation for BART models with applications to causal inference.

2022 Jingyu He, Nicholas Polson and Jianeng Xu. Data Augmentation with Pólya Inverse Gamma. Invited revision, *Journal of Computational and Graphical Statistics*.

2022 Guanhao Feng, Jingyu He, Nicholas Polson and Jianeng Xu. Deep Learning in Characteristics-Sorted Factor Models. Invited revision, *Journal of Financial and Quantitative Analysis*.

2021 Nikolay Krantsevich, Jingyu He, and P. Richard Hahn. Stochastic tree ensembles for estimating heterogeneous treatment effects.

2019 Guanhao Feng, Jingyu He and Nicholas Polson. Deep learning for predicting asset returns.

MISCELLANEOUS

2020 Jingyu He and Nikolay Krantsevich. Contributed Discussion: Bayesian regression tree models for causal inference: regularization, confounding, and heterogeneous effects. *Bayesian Analysis*, (2020).

2020 Jingyu He. XBART: A Scalable Stochastic Algorithm for Supervised Machine Learning with Additive Tree Ensembles. Ph.D. Dissertation, The University of Chicago.

Research Grants

2022 Principal Investigator, "Regression Tree for Portfolio Optimization and Imbalanced Data." Hong Kong Research Grants Council, General Research Fund, 01/2023-12/2025.

2022 INQUIRE Europe Research Grant.

2021 Co-Investigator, Financial Systemic Risk Measures based on Monte Carlo Simulation: Theory and Methods. National Natural Science Foundation of China & Hong Kong Research Grants Council, NSFC/RGC Joint Research Scheme, 01/2022-12/2025.

2021 Principal Investigator, "XBART, a novel tree-based machine learning framework for regression, classification and treatment effect estimation." Hong Kong Research Grants Council, Early Career Scheme, 01/2022-12/2023.

2021 Principal Investigator, City University of Hong Kong Start-up Grant, 11/2021-10/2023

Professional Service

REFEREEING

ACADEMIC JOURNALS: *Journal of the American Statistical Association*, *Journal of Econometrics*, *Journal of Machine Learning Research*, *Journal of Financial Econometrics*, *Journal of Business and Economic Statistics*, *Journal of Computational and Graphical Statistics*, *Journal of Empirical Finance*, *Bayesian Analysis*, *Econometrics and Statistics*, *Communications in Statistics*

GRANT: UGC faculty development scheme.

JUDGE: Savage Award, ISBA.

Honors and Awards

- 2022 INQUIRE Europe Research Award.
- 2019 Facebook Statistics for Improving Insights and Decisions research award.
- 2017 Oscar Mayer Fellowship, The University of Chicago Booth School of Business.
- 2017, 2018 Teaching Assistant Award for Executive M.B.A. Program, The University of Chicago Booth School of Business.
- 2016-2020 Ph.D. Program Fellowship, The University of Chicago Booth School of Business.

Teaching

CITY UNIVERSITY OF HONG KONG

* Students' evaluation in the parentheses.

MS6221 Predictive Modeling in Marketing. Spring 2021 (6.80 / 7), Spring 2022 (6.92 / 7), Spring 2023.

MS6711 Data Mining. Spring 2022 (6.63 / 7), Spring 2023.

MS3227 Probability and Applications in Business. Spring 2021 (6.21 / 7).

THE UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS

Guest lecturer of Business Statistics, M.B.A. course. Autumn 2019.

Supervised Students

PH.D. STUDENTS: Yuanzhi Wang (2022 cohort), Qianshu Zhang (2022 cohort).

Software

- 2021 [TreeFactor](#). R package of Asset pricing with panel trees under global split criteria.
- 2020 [xbcf](#). R package of Accelerated Bayesian causal forest.

- 2019 [XBART](#). R and python packages of accelerated Bayesian additive regression trees.
- 2018 [bayeslm](#). R package of efficient sampling for Gaussian linear regression with arbitrary priors.

Presentations

- 2022 2022 FMA Annual Meeting, Online, 2022/10.
 Institute of Mathematical Statistics (IMS) Annual Meeting, London, 2022/06.
 2022 Asian Finance Association (AsianFA) Annual Conference, Hong Kong, 2022/06.
- 2021 3rd Workshop on Machine Learning for Finance, Ca' Foscari University of Venice, Online, 2021/12.
- 2020 ICOSA 2020 Applied Statistics Symposium, Online, 2020/12.
- 2019 Arizona State University, Department of Statistics, 2019/10.
 INFORMS Annual Meeting, Seattle, 2019/10.
 2019 China International Conference in Finance, Guangzhou, 2019/07.
 2019 Asia Meeting of the Econometric Society (2019 AMES), Xiamen, 2019/06.
 NBER-NSF Seminar on Bayesian Inference in Econometrics and Statistics (SBIES), Providence, 2019/06.
 China R Conference, Renmin University, 2019/05.
 R in Finance, University of Illinois at Chicago, 2019/05.
 2019 International Conference on FinTech, Shanghai Jiao Tong University, 2019/04.
 Econometrics and Statistics Lunch Seminar, University of Chicago Booth School of Business, 2019/03.
- 2017 Joint Statistical Meeting (JSM), Baltimore, 2017/07.
- 2016 International Society for Bayesian Analysis (ISBA) World Meeting, Sardinia, 2016/06.
 NBER-NSF Seminar on Bayesian Inference in Econometrics and Statistics (SBIES), Philadelphia, 2016/04.

Discussions

- 2022 *Non-linear Market Efficiency*, by Bao Linh Do and Talis Putnins, 2022 FMA Annual Meeting, 2022/10.
Automated Risk Forecasting, by Sophia Zhengzi Li and Yushan Tang, UFlorida Research Conference on Machine Learning in Finance, 2022/09.
When Midas Meets Lasso: Forecasting Tail Risk Using Effective Macroeconomic Variables, by Yi Luo and Xiaohan Xue, 2022 AsianFA Annual Conference, 2022/06.
From Man vs. Machine to Man + Machine: The Art and AI of Stock Analyses, by Sean Cao, Wei Jiang, Junbo Wang and Baozhong Yang, 2022 Annual Conference in Digital Economics, 2022/01.

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