

Jingyu He

Last Update: June 20, 2024

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SSRN: <http://papers.ssrn.com/author=2636615>

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.

OTHER AFFILIATIONS

- 2022-now Junior Research Fellow, FinTech Initiative, Cornell University.
- 2023-now Scientist, Laboratory for AI-Powered Financial Technologies.

Education

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

Publications

FINANCE AND ECONOMETRICS

- 2023 Guanhao Feng, Jingyu He, Nicholas Polson and Jianeng Xu. Deep Learning in Characteristics-Sorted Factor Models. Forthcoming, *Journal of Financial and Quantitative Analysis*.

Unigestion Alternative Risk Premia Research Grant Award

2019 Crowell Prize, Second Prize

2019 INQUIRE Europe Research Grant Award

- 2022 Guanhao Feng, Jingyu He. Factor Investing: A Bayesian Hierarchical Approach. *Journal of Econometrics*, 230.1 (2022): 183-200.
- 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.

STATISTICS AND MACHINE LEARNING

- 2023 Jingyu He, P. Richard Hahn. Stochastic tree ensembles for regularized nonlinear regression. *Journal of the American Statistical Association*, 118.541 (2023): 551-570.
- 2023 Meijia Wang, Jingyu He and P. Richard Hahn. Local Gaussian process extrapolation for BART models with applications to causal inference. Forthcoming, *Journal of Computational and Graphical Statistics*.
- 2023 Erina Paul, Jingyu He and Himel Mallick. Accelerated Bayesian Reciprocal LASSO. Forthcoming, *Communications in Statistics*.
- 2023 Nikolay Krantsevich, Jingyu He, and P. Richard Hahn. Stochastic tree ensembles for estimating heterogeneous treatment effects. *The 26th International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2023.
- 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.
- 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.

WORKING PAPER

- 2024 Guanhao Feng, Jingyu He, Junye Li, Lucio Sarno and Qianshu Zhang. Currency Return Dynamics: What Is the Role of U.S. Macroeconomic Regimes?
- 2024 Lin William Cong, Guanhao Feng, Jingyu He and Yuanzhi Wang. Mosaics of Predictability.
- 2023 Lin William Cong, Guanhao Feng, Jingyu He and Junye Li. Sparse Modeling Under Grouped Heterogeneity with an Application to Asset Pricing, *NBER working paper No. w31424*.
Best paper award, 2024 China Fintech Research Conference
- 2023 Lin William Cong, Guanhao Feng, Jingyu He and Xin He. Growing the Efficient Frontier on Panel Trees, *NBER working paper No. w30805*, Revise and resubmit, *Journal of Financial Economics*.
2022 INQUIRE Europe Research Award
- 2022 Jingyu He, Nicholas Polson and Jianeng Xu. Data Augmentation with Pólya Inverse Gamma. Revise and resubmit, *Journal of Computational and Graphical Statistics*.
- 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

- 2023 Principal Investigator, “What Stocks are Predictable by Machine Learning?” City Univeristy of Hong Kong, Strategic Research Grant, 09/2023-08/2025.
- 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

GUEST ASSOCIATE EDITOR

Management Science

REFEREE

ACADEMIC JOURNALS: *The Review of Financial Studies*, *Journal of the American Statistical Association*, *Management Science*, *Journal of Econometrics*, *Journal of Financial and Quantitative Analysis*, *Journal of Machine Learning Research*, *Journal of Business and Economic Statistics*, *Journal of Computational and Graphical Statistics*, *Journal of Financial Econometrics*, *Statistica Sinica*, *Journal of Empirical Finance*, *Bayesian Analysis*, *Econometrics and Statistics*, *Communications in Statistics*.

GRANT: UGC faculty development scheme.

JUDGE: ISBA Savage Award 2022, ASA 2023 SBSS Student Paper Competition.

CONFERENCE ORGANIZER

CO-ORGANIZER: Hong Kong Conference for FinTech, AI, and Big Data in Business, 2022 - now.

PROGRAM COMMITTEE

FMA Annual Meeting, 2023. IEEE Global Blockchain Conference, 2024.

SESSION CHAIR

2023 FMA Annual Meeting, SBIES 2023.

Honors and Awards

- 2024 Best paper award, 2024 China Fintech Research Conference.
- 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.

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.

Teaching

CITY UNIVERSITY OF HONG KONG

* Students' evaluation in the parentheses.

MS6221 Predictive Modeling in Marketing, 2021 (6.80/7), 2022 (6.92/7), 2023 (4.57/5), 2024 (4.69/5).

MS6711 Data Mining, 2022 (6.63/7), 2023 (4.66/5), 2024 (4.65 / 5), 2025.

MS3227 Probability and Applications in Business, 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 AND ENTRY YEAR: Yuanzhi Wang (2022), Qianshu Zhang (2022), Shuhua Xiao (2023), Siyu Bie (2023).

DISSERTATION COMMITTEE MEMBER: Meijia Wang (2023, ASU → Google), Palak Jain (ASU), Nikolay Krantsevich (2023, ASU → Foundation Medicine), Xin He (2022, CityU → Hunan University).

Presentations

- 2024 University of Amsterdam, Amsterdam School of Economics, 2024/10.
- Erasmus University Rotterdam, Erasmus School of Economics, 2024/10.
- 2024 Summer Institute of Finance Conference, Xi'an, 2024/07.
- AI and Finance Conference at Sun Yat-Sen University, 2024/07.
- 2024 China International Conference in Finance, Beijing, 2024/07.
- 8th EAC ISBA Conference, Hong Kong, 2024/06.
- 16th Annual SoFiE Conference, Rio de Janeiro, 2024/06.

- 8th PKU-NUS Annual International Conference on Quantitative Finance and Economics, Suzhou, 2024/05.
 School of Statistics, East China Normal University, 2024/04.
 2024 China Fintech Research Conference, Shanghai, 2024/04.
 Chinese University of Hong Kong (Shenzhen), School of Management and Economics, 2024/04.
 China Journal of Econometrics Conference: Artificial Intelligence and Econometrics, Xiamen, 2024/04.
- 2023 7th Shanghai-Edinburgh-UCL Fintech Conference, Shanghai, 2023/11.
 Fifth International Workshop in Financial Econometrics, Santo André, 2023/10.
 NBER-NSF Seminar on Bayesian Inference in Econometrics and Statistics (SBIES), Philadelphia, 2023/08.
 7th EAC ISBA Conference, Qingdao, 2023/07.
 Macquarie University, Department of Actuarial Studies and Business Analytics, 2023/06.
 Youth Econometrics Asia-Pacific Conference, Shanghai, 2023/06.
 China Journal of Econometrics Conference: Time-varying Coefficient Models, Changsha, 2023/05.
 Central South University, School of Mathematics and Statistics, 2023/05.
 Southern University of Science and Technology, Business School, 2023/05.
 Chinese University of Hong Kong, Department of Decision Sciences and Managerial Economics, 2023/04.
 Eastern Finance Association Annual Meeting, Asheville, 2023/03.
 University of Macau, Department of Economics, 2023/03.
- 2022 35th Australasian Finance & Banking Conference, Online, 2022/12.
 Arizona State University, Department of Statistics, 2022/10.
 The University of Hong Kong, HKU Business School, 2022/10.
 2022 FMA Annual Meeting, Online, 2022/10.
 Institute of Mathematical Statistics (IMS) Annual Meeting, London, 2022/06.
 2022 Asian Finance Association (AsianFA) Annual Conference, Online, 2022/06.
- 2021 3rd Workshop on Machine Learning for Finance, Ca' Foscari University of Venice, Online, 2021/12.
- 2020 ICSA 2020 Applied Statistics Symposium, Online, 2020/12.
 City University of Hong Kong, Department of Management Sciences, 2020/01.
- 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

- 2023 *Risk-Return Relation of Cryptocurrency Carry Trade*, by Zhenzhen Fan, Feng Jiao, Lei Lu and Xin Tong, 7th Shanghai-Edinburgh-UCL Fintech Conference, 2023/11.
(Almost) 200 Years of News-Based Economic Sentiment, by J. H. van Binsbergen, S. Bryzgalova, M. Mukhopadhyay and V. Sharma, Fifth International Workshop in Financial Econometrics, 2023/10.
A Factor Model for Stock Options, by Turan G. Bali, Jie Cao, Fousseni Chabi-Yo, Linjia Song and Xintong Zhan, Econometrics Workshop for Time-varying Coefficient Models, 2023/05.
Confident Risk Premiums and Investments using Machine Learning Uncertainties, by Rohit Allena, 2023 Eastern Finance Association Annual Meeting, 2023/03.
- 2022 *The Conditional Dollar-Carry FX Pricing Model*, by Thomas Maurer, Sining Liu, Andrea Vedolin and Yaoyuan Zhang, 2022 Australasian Finance and Banking Conference, 2022/12.
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.