

JIAHUI XIN

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RESEARCH INTERESTS

Adaptive Clinical Trial Design; Covariate- and Response-Adaptive Randomization; Robust Inference; Precision Medicine; Markov Decision Process.

EDUCATION

- **Renmin University of China, Institute of Statistics and Big Data** Sept. 2021 – June 2026 (Expected)
Beijing, China
Ph.D. Candidate in Statistics
 - GPA: 3.84/4.0
 - Supervised by **Prof. Wei Ma**.
- **University of Cambridge, MRC Biostatistics Unit** Jan. 2026 – Present
Cambridge, UK
Visiting Ph.D. Student
 - Hosted by **Dr. David Robertson**.
 - Working on exact inference for covariate-adjusted response-adaptive (CARA) designs in clinical trials, in collaboration with Drs. David Robertson and Stef Baas.
- **University of Science and Technology of China, Special Class for the Gifted Young** Sept. 2016 – June 2021
Hefei, China
B.S. in Statistics
 - Major GPA: 3.95/4.3, Total GPA: 3.75/4.3
 - Initially majored in Physics (Sept. 2017 – June 2018).

PAPERS

- [1] **On the Achievability of Efficiency Bounds for Covariate-Adjusted Response-Adaptive Randomization.**
Jiahui Xin and Wei Ma.
Statistical Methods in Medical Research, 2025.
- [2] **Cross-Validation Model Averaging under Covariate-Adaptive Randomization.**
Fuyi Tu, Jiahui Xin and Wei Ma.
Under review at *Statistica Sinica*.
- [3] **Covariate-Adaptive Randomization with Many Strata: Asymptotic Theory and Statistical Inference.**
Jiahui Xin, Hanzhong Liu, Feifang Hu and Wei Ma.
Manuscript in preparation for submission to *Biometrika*; early version available on arXiv:2405.18856.
- [4] **Covariate-Adaptive Enrollment for Single-Arm Trials Using External Controls.**
Jiahui Xin, Hengjia Fang, Zhiyue Huang, Satoshi Yoshida and Wei Ma.
Working paper.

TALKS

- **Efficient Study Design Discussion Group, MRC Biostatistics Unit, University of Cambridge** 2026
Cambridge, UK
Invited talk
Title: Covariate-adaptive randomization with many strata: Asymptotic theory and statistical inference
- **Drug Information Association, Quantitative Science Forum** 2025
Nanjing, China
Invited talk
Title: Covariate-adaptive enrollment for single-arm survival trials using external controls
- **Chinese Statistical Association of Young Statisticians, Ph.D. Student Forum** 2025
Jinan, China
Travel award & oral presentation
Title: Inference under covariate-adaptive randomization with many strata
- **National Graduate Student Statistics Forum, Biostatistics and Epidemiology Section** 2024
Beijing, China
Selected paper & oral presentation
Title: Inference under covariate-adaptive randomization with many strata

INTERNSHIP EXPERIENCE

- **Astellas Pharma [●] (Clinical Biometrics Function)** June 2025 – Aug. 2025
Beijing, China
Clinical Biostatistics Intern, Adaptive Strategy
 - Mentors: **Dr. Zhiyue Huang and Satoshi Yoshida**.
 - Developed adaptive enrollment strategies for single-arm survival trials under practical covariate shift.
 - Presented project results in internal seminars, including a China–Japan joint statistics meeting and a final internship presentation within the Clinical Biometrics Function.
- **Honor Device [●] (R&D Management Department)** July 2021
Nanjing, China
R&D Intern, Audio Augmentation
 - Mentor: **Dr. Lei Fang**.
 - Augmented synthetic speech with room-reverberation simulation to boost automatic speech recognition robustness.

TEACHING EXPERIENCE

- **Adaptive Design and Reinforcement Learning** Spring 2025
Teaching Assistant, Renmin University of China
- **Advanced Statistical Computation** Fall 2024
Teaching Assistant, Renmin University of China
- **Advanced Applied Statistics and Data Analysis** Spring 2024
Teaching Assistant, Renmin University of China
- **Statistical Models and Inference** Fall 2022
Teaching Assistant, Renmin University of China
- **Complex Analysis** Spring 2020
Teaching Assistant, University of Science and Technology of China
- **Optics and Atomic Physics** Spring 2019
Teaching Assistant, University of Science and Technology of China

OTHER EXPERIENCE

- **AI and Large Language Models Workshop** Feb. 2026
Department of Computer Science and Technology, University of Cambridge
- **Causal Analyses of Complex Experiments** Dec. 2025
Yau Mathematical Sciences Center, Tsinghua University
- **Causal Inference and A/B Testing** July 2024 – Aug. 2024
Guanghua School of Management, Peking University
- **Reinforcement Learning** Dec. 2023
Institute of Statistics and Big Data, Renmin University of China
- **Topics and Recent Advances in Causal Inference** June, July & Dec. 2023
Yau Mathematical Sciences Center, Tsinghua University
- **Semiparametric Learning** July 2023
Institute of Statistics and Big Data, Renmin University of China

SKILLS

- **Programming & Tools:** R, C++, Python, Julia, Linux, Git

REFERENCES

- **Dr. Wei Ma** []
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