MINGYA HUANG

University of Wisconsin–Madison

1025 W Johnson St Room 1075A, Madison, WI 53706

✉ mhuang233@wisc.edu | ⚫ mhuang233 | 🌐 mhuang233.github.io

Education

University of Wisconsin–Madison (UW–Madison) 2019 – 2025 Expected
PhD. Educational Psychology (Quantitative Methods)
M.S. Statistics
Minor. Computer Science

University of Illinois at Urbana–Champaign (UIUC) 2017 – 2019
M.S. QUERIES

University of Macao (UM) | Honor College 2011 – 2015
B.Ed. Education
Minor. Psychology

Research Interests

- **Bayesian Statistics:** Bayesian nonparametrics.

- **Machine Learning:** Ensemble methods.

- **Clustering:** Hierarchical and mixture clustering.

- **Causal Inference:** Heterogeneous treatment effects.

- **Applications in social and behavioral science.**

Preprints

6 **Huang M.** (2024+). *Bayesian additive regression trees for estimating heterogeneous trajectories of test scores in large-scale education assessment.* PsyArXiv: https://doi.org/10.31234/osf.io/s6cb3.

Publications

Peer-reviewed Journal Articles

5 **Huang M.**, & Kaplan, D. (2024) [In press]. Predictive performance of Bayesian stacking In multilevel education data. *Journal of Educational and Behavioral Statistics*, PsyArXiv: https://psyarxiv.com/e9m6x/.

4 Xia, Y., Luo, Y., **Huang, M.**, & Yang, Y. (2022). On the use of inclusive strategy when some participants fail to provide data on all studied variables. International Journal of Quantitative Research in Education, 5(4), 356-378. DOI: 10.1504/IJQRE.2022.129794

3 Garbacz, S. A., Stormshak, E. A., McIntyre, L. L., Bolt, D., & **Huang, M.** (2022). Family-Centered Prevention During Elementary School to Reduce Growth in Emotional and Behavior Problems. *Journal of Emotional and Behavioral Disorders*, 10634266221143720. DOI: 10.1177/10634266221143720.

2 Kaplan, D., & **Huang, M.** (2021). Bayesian probabilistic forecasting with large-scale educational trend data: a case study using NAEP. *Large-scale Assessments in Education*, 9(1), 1-31. DOI: 10.1186/s40536-021-00108-2.

Book Chapters

1 **Huang, M.**, & Anderson, C. (2021). A Bayesian solution to non-convergence of crossed random effects models. *Quantitative Psychology*, (pp. 297-307). Springer International Publishing. DOI: 10.1007/978-3-030-74772-5_27.

Working Papers & Research in progress

4 **Huang, M.**, & Kaplan, D., & Deshpande, S.K. (2024+). Bayesian nonparametric ensemble methods for personalized predictive modeling in educational testing.

3 Kaplan, D., & **Huang, M.** (2024+). Predictive performance when models are distinct: a Bayesian perspective.

2 Kokandakar, A.H., **Huang, M.** & Lyu, W., Deshpande, S.K. (2024+). A mixture of finite mixture modeling approach for estimating heterogeneous treatment effects.

1 Pan, P., & **Huang, M.**, & Anderson, C. (2024+). A tutorial of Bayesian methods for estimating crossed-classified random effects.

Conference Presentations

- **Huang M.** (2024). "Bayesian treed regressions for estimating heterogeneous trajectories of test scores in large-scale data". Presented at the International Society of Bayesian Analysis (ISBA), Venice, Italy.

- **Huang M.** (2024). "Bayesian Additive Regression Trees for estimating heterogeneous

trajectories of test scores in large-scale educational data". Presented at the 89th annual meeting of the Psychometric Society (IMPS), Prague, Czech Republic.

- Edwards, E., & **Huang, M.** (2024). "Predictive performance of Bayesian model mixing in large-scale data". Presented at the 5th annual Research Bazaar, Madison, WI.

- **Huang, M.**, & Kaplan, D. (2023). "Bayesian stacking in multilevel Models". Presented at the 88th annual meeting of the Psychometric Society (IMPS), College Park, MD.

- **Huang, M.**, & Kaplan, D. (2023). "Bayesian hierarchical stacking in large-scale assessment". Presented at the annual meeting of the National Council on Measurement in Education (NCME), Chicago, IL.

- **Huang, M.**, & Kaplan, D. (2022). "Bayesian hierarchical stacking in random effects models". Presented at the 87th annual meeting of the Psychometric Society (IMPS), Bologna, Italy.

- **Huang, M.**, & Anderson, C. (2020) [Virtual]. "A Bayesian solution to non-convergence of crossed random effects models". Presented at the 85th annual meeting of the Psychometric Society (IMPS).

- Kaplan, D., & **Huang, M.** (2020) [Virtual]. "Bayesian probabilistic forecasting with large-scale educational trend data: a case study using NAEP". Presented at the 85th annual meeting of the Psychometric Society (IMPS).

- **Huang, M.** (2019). "Self-concept, motivational calibration and biology performance of college students". The Annual Meeting of American Educational Research Association (AERA) [Accepted]. DOI: 10.3102/1431491.

Invited Talks

May 2024   "Bayesian treed regressions for estimating heterogeneous trajectories of test scores in large-scale clustered data". Statistics Graduate Students Association, University of Wisconsin–Madison, Madison WI.

Teaching Experience

Teaching Assistant | Guest Lecturer	*UW–Madison*
ED PSYCH 965 Applied Bayesian Statistics for Education Research	2024
ED PSYCH 761 Statistical Methods Applied to Education II	2023/2024
ED PSYCH 760 Statistical Methods Applied to Education I	2022/2023

Graduate (Teaching) Assistant *UIUC*
EPSY 199 Undergraduate Open Seminar 2018 – 2019

Intern Homeroom Teacher *Urbana, IL*
Jefferson Middle School Jan – May 2014

Professional Experience

Project Assistant June – July 2023
World-Class Instructional Design and Assessment (WIDA)
University of Wisconsin–Madison

Project Assistant 2021 – 2022
Testing and Evaluation Services
University of Wisconsin–Madison

Project Assistant June – August 2021
Wisconsin Center for Education Research (WCER)
University of Wisconsin–Madison

Chair Project Assistant 2020 – 2021
Department of Educational Psychology
University of Wisconsin–Madison

Graduate (Research) Assistant 2017 – 2018
International Student and Scholar Services
University of Illinois at Urbana–Champaign

Research Assistant 2012 – 2015
Honor College Research Program
University of Macao

International Baccalaureate (IB) PYP Program Coordinator 2015 – 2017
Country Garden Silver Beach International School

Honors & Awards

Graduate School Fellowship 2019/2024
University of Wisconsin–Madison
Student Travel Award 2024
International Society of Bayesian Analysis (ISBA)

Student Travel Award 2023
Psychometric Society

Dean's Honor List 2011 − 2015
University of Macao

Henry Fok Foundation Academic Prize 2015
University of Macao

Dean's Honor List 2014
University of Illinois at Urbana–Champaign

Wu's Group Scholarship 2013
University of Macao

Service

Ad Hoc Reviewer	AERA Annual Meeting.
Graduate Research Mentor	Undergraduate Research Scholar Program. evanjje.
	University of Wisconsin–Madison
Exchange Program Coordinator	Macao Exchange Services.
	University of Illinois at Urbana–Chapaign

Professional Affiliations

Psychometric Society

American Psychology Association (APA)

International Society of Bayesian Society (ISBA)

American Educational Research Association (AERA)

Programming

R, Python, SAS, M*plus*, MATLAB, SPSS, LaTeX, CSS, Git, shell script, Docker.