

MINGYA HUANG

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Education

University of Wisconsin–Madison (UW–Madison) Ph.D. Quantitative Methods Department of Educational Psychology Advisor: Dr. David Kaplan	2025
M.S. Statistics Department of Statistics Advisor: Dr. Sameer Deshpande	2024
Minor. Computer Sciences Department of Computer Sciences	2023
University of Illinois at Urbana–Champaign (UIUC) M.S. QUERIES Department of Educational Psychology Advisor: Dr. Carolyn Anderson	2019
University of Macao (UM) Honors College B.Ed. Education Minor. Psychology	2015

Research Interests

Bayesian Statistics | Machine Learning | Multilevel Modeling | Causal Inference

- Bayesian ensemble learning for personalized predictive modeling in large-scale assessments.
- Bayesian nonparametrics for dynamic modeling in multilevel and longitudinal data.
- Bayesian causal effects estimation in observational/experimental settings.
- Applications of Bayesian statistics/machine learning in social and behavioral sciences.

Preprints

- 6 **Huang, M.** (2025+). Bayesian treed regressions for estimating heterogeneous trajectories of test scores in large-scale educational assessments. PsyArXiv:
<https://doi.org/10.31234/osf.io/s6cb3>.

Publications

Peer-reviewed Journal Articles

- 5 **Huang, M.**, & Kaplan, D. (2024). Predictive performance of Bayesian stacking in multilevel education data. *Journal of Educational and Behavioral Statistics*. DOI: 10769986241255969. PsyArXiv: <https://doi.org/10.31234/osf.io/e9m6x>.
- 4 Garbacz, S. A., Stormshak, E. A., McIntyre, L. L., Bolt, D., & **Huang, M.** (2024). Family-Centered Prevention During Elementary School to Reduce Growth in Emotional and Behavior Problems. *Journal of Emotional and Behavioral Disorders*. DOI: 10.1177/10634266221143720.
- 3 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
- 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.

Conference Presentations

* indicates students mentored.

- **Huang, M.** (2024). “Bayesian treed regressions for estimating heterogeneous trajectories of test scores in large-scale data”. Presented at the world meeting of 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 International Meeting of Psychometric Society (IMPS), Prague, Czech Republic.
- Edwards, E.*, & **Huang, M.** (2024). “Predictive performance of Bayesian model mixing in large-scale clustered data”. Presented at the 5th Annual Data Science Research Bazaar, Madison, WI.
- Edwards, E.*, & **Huang, M.** (2024). “Predictive performance of Bayesian model mixing in large-scale clustered data”. Presented at the Undergraduate Research Symposium, Madison, WI.

- **Huang, M.**, & Kaplan, D. (2023). “Bayesian stacking in multilevel Models”. Presented at the 88th Annual International Meeting of 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 International Meeting of 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 International Meeting of 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 International Meeting of Psychometric Society (IMPS).
- **Huang, M.** (2019). “Self-concept, motivational calibration and biology performance of college students” [Accepted]. The Annual Meeting of American Educational Research Association (AERA). DOI: [10.3102/1431491](https://doi.org/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 Seminar, University of Wisconsin–Madison, Madison WI.

Teaching Experience

Teaching Assistant Guest Lecturer	<i>UW–Madison</i>
ED PSYCH 965 Applied Bayesian Statistics for Education Research	2024
ED PSYCH 763 Regression Models in Education	2024
ED PSYCH 762 Introduction to the Design of Educational Experiments	2024
ED PSYCH 761 Statistical Methods Applied to Education II	2023/2024/2025
ED PSYCH 760 Statistical Methods Applied to Education I	2022/2023
Graduate (Teaching) Assistant	<i>UIUC</i>
EPSY 199 Undergraduate Open Seminar	2018 – 2019
Intern Homeroom Teacher	<i>Champaign, IL</i>
<i>Jefferson Middle School</i>	Jan – May 2014

Research Experience

TA & Statistical Consultant

Supervised by Dr. Jee-Seon Kim & Dr. James Pustejovsky
Laboratory for Experimental Design (LED)

UW-Madison

Fall 2024

Project Assistant

Supervised by Dr. Rosalie Grant
World-Class Instructional Design and Assessment (WIDA)

UW-Madison

Summer 2023

Project Assistant

Supervised by Dr. Jim Wollack & Dr. Sonya Sedivy
Testing and Evaluation Services (T&E)

UW-Madison

2021 – 2022

Project Assistant

Supervised by Dr. Bonnie Doren
Wisconsin Center for Education Research (WCER)

UW-Madison

Summer 2021

Chair Project Assistant

Supervised by Dr. Daniel Bolt & Dr. Andy Garbacz
Department of Education Psychology

UW-Madison

2020 – 2021

Graduate (Research) Assistant

Supervised by Dr. Allison Witt
International Student and Scholar Services

UIUC

2017 – 2018

Research Assistant

Supervised by Dr. Tat Ming Sze & Dr. Daming Xu
Honors College Research Program

UM

2012 – 2015

Honors & Awards

Department of Educational Psychology Dissertator Award

University of Wisconsin-Madison

2024

Graduate School Fellowship

University of Wisconsin-Madison

2019/2024

Student Travel Award

International Society of Bayesian Analysis (ISBA)

2024

RAFA Travel Award

University of Wisconsin-Madison

2022/2023/2024

Student Travel Award

Psychometric Society (PS)

2023

Henry Fok Foundation Academic Prize <i>University of Macao</i>	2015
Dean's Honors List <i>University of Illinois at Urbana-Champaign</i>	2014
Wu's Group Scholarship <i>University of Macao</i>	2013
Dean's Honors List <i>University of Macao</i>	2011 – 2015
The Third Prize <i>National Biology Competition, China</i>	2010

Service

Session Chair	AERA/NCME 2025.
Ad-hoc Reviewer	AERA/NCME Annual Meeting.
Brown Bag Panelist	Educational Psychology Student Association (EPSA). <i>University of Wisconsin-Madison</i>
Graduate Research Mentor	Undergraduate Research Scholar Program. <i>University of Wisconsin-Madison</i>
Exchange Program Coordinator	Macao Honors College Exchange Program. <i>University of Illinois at Urbana-Champaign</i>

Professional Affiliations

Psychometric Society (PS)
American Statistical Association (ASA)
International Society of Bayesian Analysis (ISBA)
American Educational Research Association (AERA) – Division D

Computer Skills

R | Python | Stan | C/C++ | Git | Docker | SAS | *Mplus* | Shell script | L^AT_EX

References

Dr. David Kaplan Dept. of Education Psychology UW-Madison david.kaplan@wisc.edu (608)-262-0836	Dr. Sameer Deshpande Dept. of Statistics UW-Madison sameer.deshpande@wisc.edu (608)-262-3609	Dr. Carolyn Anderson Dept. of Education Psychology UIUC cja@illinois.edu (217)-244-3537
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