

# MINGYA HUANG

University of Wisconsin–Madison

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## Research Interests

**Bayesian** Bayesian nonparametrics • Bayesian machine learning • Multilevel modeling •  
**Statistics** Psychometrics • Causal inference • Applications in social and behavioral sciences

## Education

- 2025 Expected **University of Wisconsin–Madison (UW–Madison)**  
**Ph.D. [Quantitative Methods](#)** | Department of Educational Psychology  
Committee: Drs. David Kaplan (Chair), Sameer Deshpande, Jee-Seon Kim, & James Pustejovsky  
**M.S. Statistics** | Department of Statistics  
Advisor: Dr. Sameer Deshpande  
**Minor. Computer Sciences** | Department of Computer Sciences
- 2019 **University of Illinois at Urbana–Champaign (UIUC)**  
**M.S. [QUERIES](#)** | Department of Educational Psychology  
Advisor: Dr. Carolyn Anderson
- 2015 **University of Macao (UM)** | Honors College  
**B.Ed. Education**  
**Minor. Psychology**

## 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

- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1186/s40536-021-00108-2).
- 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](https://doi.org/10.1007/978-3-030-74772-5_27).

## Conference Presentations

\* indicates students mentored.

- 2025 **Huang, M.**, Lyu W., & Kaplan D. “Personalized predictive modeling with Bayesian nonparametric ensemble learning”. Presented at the 90th Annual International Meeting of Psychometric Society (IMPS), Minneapolis, MN.  
  
Lyu W., & **Huang, M.** “A utility-maximization framework for joint modeling of time and accuracy. Presented at the 90th Annual International Meeting of Psychometric Society (IMPS), Minneapolis, MN.  
  
**Huang, M.**, Lyu W., & Kaplan D. “Personalized predictive modeling with input-dependent weighting scheme: A flexible Bayesian nonparametric approach”. Presented at the Annual Bayesian Young Statisticians Meeting (BAYSM) [Virtual].
- 2024 **Huang, M.** “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.** “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.** “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.** “Predictive performance of Bayesian model mixing in large-scale clustered data”. Presented at the Undergraduate Research Symposium, Madison, WI.

- 2023 **Huang, M.**, & Kaplan, D. “Bayesian stacking in multilevel Models”. Presented at the 88th Annual International Meeting of Psychometric Society (IMPS), College Park, MD.
- Huang, M.**, & Kaplan, D. “Bayesian hierarchical stacking in large-scale assessment”. Presented at the Annual Meeting of the National Council on Measurement in Education (NCME), Chicago, IL.
- 2022 **Huang, M.**, & Kaplan, D. “Bayesian hierarchical stacking in random effects models”. Presented at the 87th Annual International Meeting of Psychometric Society (IMPS), Bologna, Italy.
- 2020 **Huang, M.**, & Anderson, C. “A Bayesian solution to non-convergence of crossed random effects models”. Presented at the 85th Annual International Meeting of Psychometric Society (IMPS). [Virtual].
- Kaplan, D., & **Huang, M.** “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). [Virtual].
- 2019 **Huang, M.** “Self-concept, motivational calibration and biology performance of college students” The Annual Meeting of American Educational Research Association (AERA). [Accepted] 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

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

## Research & Professional Experience

- Fall 2024     **TA & Statistical Consultant**, UW–Madison  
Laboratory for Experimental Design (LED)  
Supervised by Drs. Jee-Seon Kim & James Pustejovsky
- Summer 2023     **Project Assistant**, UW–Madison  
World-Class Instructional Design and Assessment (WIDA)  
Supervised by Dr. Rosalie Grant
- 2021 – 2022     **Project Assistant**, UW–Madison  
Testing and Evaluation Services (T&E)  
Supervised by Drs. Jim Wollack & Sonya Sedivy
- Summer 2021     **Project Assistant**, UW–Madison  
Wisconsin Center for Education Research (WCER)  
Supervised by Dr. Bonnie Doren
- 2020 – 2021     **Chair Project Assistant**, UW–Madison  
Department of Education Psychology  
Supervised by Drs. Daniel Bolt & Andy Garbacz
- 2017 – 2018     **Graduate (Research) Assistant**, UIUC  
International Student and Scholar Services  
Supervised by Dr. Allison Witt
- 2012 – 2015     **Research Assistant**, UM  
Honors College Research Program  
Supervised by Drs. Tat Ming Sze & Daming Xu

## Honors & Awards

- 2024     **Department of Educational Psychology Dissertator Award**, UW–Madison  
**Graduate School Fellowship**, UW–Madison  
**RAFA Travel Award**, UW–Madison  
**Student Travel Award**, International Society of Bayesian Analysis (ISBA)
- 2023     **RAFA Travel Award**, UW–Madison  
**Student Travel Award**, Psychometric Society (PS)
- 2022     **RAFA Travel Award**, UW–Madison
- 2019     **Graduate School Fellowship**, UW–Madison
- 2015     **Henry Fok Foundation Academic Prize**, UM
- 2014     **Dean’s Honors List**, UIUC

2013	<b>Wu's Group Scholarship</b> , UM
2011 – 2015	<b>Dean's Honors List</b> , UM
2010	<b>The Third Prize</b> , National Biology Competition, China

## Service

<b>Reviewer</b>	AERA Annual Meeting NCME Annual Meeting
<b>Session Chair</b>	NCME 2025
<b>Panelist</b>	EdPsych Student Association Brown Bag, UW–Madison
<b>Mentor</b>	Undergraduate Research Scholar Program, UW–Madison
<b>Coordinator</b>	Macao Honors College Exchange Program, UIUC

## Professional Affiliations

2019 – Present	Psychometric Society (PS)
2025 – Present	American Statistical Association (ASA)
2024 – Present	International Society of Bayesian Analysis (ISBA)
2019 – Present	American Educational Research Association (AERA) – Division D

## Computer Skills

Language	R, Python, C/C++, Stan, Shell script, $\LaTeX$
Software	Git, Docker, SAS, <i>Mplus</i>

## References

### Dr. David Kaplan

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UW–Madison  
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(608)-262-0836

### Dr. Sameer Deshpande

Dept. of Statistics  
UW–Madison  
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(608)-262-3609

### Dr. Carolyn Anderson

Dept. of Educational Psychology  
UIUC  
[cja@illinois.edu](mailto:cja@illinois.edu)  
(217)-244-3537