

# MINGYA HUANG

University of Wisconsin–Madison

1025 W Johnson St, Madison, WI 53706

✉ [mhuang233@wisc.edu](mailto:mhuang233@wisc.edu) |  [mhuang233](https://github.com/mhuang233) |  [mhuang233.github.io](https://mhuang233.github.io)

## Education

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**University of Wisconsin–Madison (UW–Madison)** 2025

**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

**University of Illinois at Urbana–Champaign (UIUC)** 2019

**M.S. QUERIES** | Department of Educational Psychology

Advisor: Dr. Carolyn Anderson

**University of Macao (UM) | Honors College** 2015

**B.Ed. Education**

**Minor. Psychology**

## Research Interests

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**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

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- 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

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## 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](https://doi.org/10.31234/osf.io/e9m6x). 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).

## 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](https://doi.org/10.1007/978-3-030-74772-5_27).

# Conference Presentations

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\* 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

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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

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<b>Teaching Assistant   Guest Lecturer</b>	<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
<b>Graduate (Teaching) Assistant</b>	<i>UIUC</i>
EPSY 199 Undergraduate Open Seminar	2018 – 2019
<b>Intern Homeroom Teacher</b>	<i>Champaign, IL</i>
<i>Jefferson Middle School</i>	Jan – May 2014

## Research & Professional Experience

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<b>TA &amp; Statistical Consultant</b>	<i>UW–Madison</i>
Supervised by Dr. Jee-Seon Kim & Dr. James Pustejovsky	Fall 2024
Laboratory for Experimental Design (LED)	

<b>Project Assistant</b> Supervised by Dr. Rosalie Grant World-Class Instructional Design and Assessment (WIDA)	<i>UW-Madison</i> Summer 2023
<b>Project Assistant</b> Supervised by Dr. Jim Wollack & Dr. Sonya Sedivy Testing and Evaluation Services (T&E)	<i>UW-Madison</i> 2021 – 2022
<b>Project Assistant</b> Supervised by Dr. Bonnie Doren Wisconsin Center for Education Research (WCER)	<i>UW-Madison</i> Summer 2021
<b>Chair Project Assistant</b> Supervised by Dr. Daniel Bolt & Dr. Andy Garbacz Department of Education Psychology	<i>UW-Madison</i> 2020 – 2021
<b>Graduate (Research) Assistant</b> Supervised by Dr. Allison Witt International Student and Scholar Services	<i>UIUC</i> 2017 – 2018
<b>Research Assistant</b> Supervised by Dr. Tat Ming Sze & Dr. Daming Xu Honors College Research Program	<i>UM</i> 2012 – 2015

## Honors & Awards

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<b>Department of Educational Psychology Dissertator Award</b> <i>University of Wisconsin-Madison</i>	2024
<b>Graduate School Fellowship</b> <i>University of Wisconsin-Madison</i>	2019/2024
<b>Student Travel Award</b> <i>International Society of Bayesian Analysis (ISBA)</i>	2024
<b>RAFA Travel Award</b> <i>University of Wisconsin-Madison</i>	2022/2023/2024
<b>Student Travel Award</b> <i>Psychometric Society (PS)</i>	2023
<b>Henry Fok Foundation Academic Prize</b> <i>University of Macao</i>	2015
<b>Dean's Honors List</b> <i>University of Illinois at Urbana-Champaign</i>	2014
<b>Wu's Group Scholarship</b> <i>University of Macao</i>	2013
<b>Dean's Honors List</b> <i>University of Macao</i>	2011 – 2015
<b>The Third Prize</b> <i>National Biology Competition, China</i>	2010

## Service

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

## Professional Affiliations

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

## Computer Skills

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R | Python | Stan | C/C++ | Git | Docker | SAS | *Mplus* | Shell script | L<sup>A</sup>T<sub>E</sub>X

## References

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### **Dr. David Kaplan**

Dept. of Education Psychology  
UW–Madison  
[david.kaplan@wisc.edu](mailto:david.kaplan@wisc.edu)  
(608)-262-0836

### **Dr. Sameer Deshpande**

Dept. of Statistics  
UW–Madison  
[sameer.deshpande@wisc.edu](mailto:sameer.deshpande@wisc.edu)  
(608)-262-3609

### **Dr. Carolyn Anderson**

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