(213) 458-3486
Los Angeles, California
yzhang97@usc.edu

Yichi Zhang

github.com/YichiZhang2024
linkedin.com/in/yichi-zhang-312164201

Education

Ph.D. in Quantitative Methods and Computational Psychology, *University of Southern California* 2019- Expected 2024
Dornsife PhD Academy Scholarship and Research Fund Award
Graduate Student Government Professional Development Fund
Master of Arts in Quantitative Methods and Computational Psychology, *University of Southern California* 2019-2021
Bachelor of Science in Mathematics and Psychology, *Dickinson College* 2015-2019

Relevant Coursework

Statistics: Advanced Statistical Computing, Risk Analysis, Multilevel Modeling, Bayesian Data Analysis, Data Analysis for Categorical Variables, Introduction to the Theory of Statistics, Classic and Modern Statistic Methods
Machine Learning NLP: Applied Machine Learning, Computational social sciences: Text as Data
Consulting: Statistical Problem Solving

Skills

Tools and Languages	R, MySQL, Stata, Stan, Mplus, Tensorflow, Python, Git, LaTeX, MarkDown, Rsweave
Quantitative Research	Measurement, selection and assessment, Statistical Modeling, decision science and behavior change, quantitative text analysis

Project Experience

Improving Subnational Predictions with Social Media Data: Multilevel Regression and Poststratification **Aug 2021 - Present**
- Conduct Multilevel Regression and Poststratification (MLR) with 8 million tweets related to COVID-19 to predict county-level covid cases and deaths
- Conduct MLR with political news articles to predict election outcomes
- Run complex Bayesian multilevel models with temporal and spatial autocorrelation using high performance computing resource

Bayesian Region of Measurement Equivalence (ROME) Approach for Establishing Measurement Invariance **Aug 2019 - Present**
- Developed a Bayesian framework that uses effect size indices to support null hypothesis
- Quantified the impact of survey item bias on practical metrics, such as selection accuracy, total observed scores
- Illustrated the methodology on large scale educational data set with complexed sampling designs
- Published on a journal with impact factor of 10.93

Evaluating Standard Error Estimators for Multilevel Models on Small Samples With Heteroscedasticity and Unbalanced Cluster Sizes **Aug 2020 - Present**
- Compared small sample corrections for fixed effects standard errors and inferences in multilevel models with heteroscedastic and unbalanced data using Monte Carlo simulation
- Presented the results to audience with no statistics at multiple conferences

Research Experience

Ph.D. Researcher **Aug 2019 — Present**
University of Southern California *Los Angeles, CA*
- Lead a book chapter on bootstrap methods for multilevel/hierarchical data.
- Worked on 10+ projects and presented results on 5+ national conferences
- Reviewed 5+ high impact journal papers
- Led weekly laboratory and/or problem-solving and discussion sections for groups of 13-30 students

Statistical Consultant / McArdle Graduate Consultation and Computer Center **Aug 2022 — Present**
University of Southern California *Los Angeles, CA*
- Translate students' needs into appropriate statistical solutions using both frequentist and Bayesian frameworks
- Host workshop sessions on multilevel models and psychometrics
- Mentor graduate students in statistical analysis
- Provide support for using R, Mplus, Stata

Doctoral Research Intern **June 2022 — Aug 2022**
American Institutes for Research *Arlington, Virginia*
- Validated questionnaire items from a large-scale educational assessment data set with complexed design (NAEP) using the developed Bayesian ROME approach
- Presented technical material for non-technical education policy maker
- Submitted a full research paper to National Center for Education Statistics (NCES) conference

(213) 458-3486
Los Angeles, California
yzhang97@usc.edu

Yichi Zhang

github.com/YichiZhang2024
linkedin.com/in/yichi-zhang-312164201

Selected Publications (2 of 5)

Zhang, Y., Lai, M. H. C., Palardy, G. J. (2022). A Bayesian region of measurement equivalence (ROME) approach for establishing measurement invariance. Psychological Methods. Advance online publication. https://doi.org/10.1037/met0000455
Zhang, Y., Lai, M. H. C.(submitted). Evaluating Standard Error Estimators for Multilevel Models on Small Samples With Heteroscedasticity and Unbalanced Cluster Sizes.

Selected Conference Presentations (2 of 7)

Zhang, Y. Lai, M. H. C. (2022, July 11-15). Bayesian Region of Measurement Equivalence Approach with Alignment (Oral Presentation). Annual Meeting of the Psychometric Society (IMPS), Bologna, Italy.
Zhang, Y. Lai, M. H. C. (2022, April 21-26). Evaluating Standard Error Estimators for Multilevel Models on Small Samples With Heteroscedasticity and Unbalanced Cluster Sizes. American Educational Research Association Annual Meeting, San Diego, Ca, Unitied States.

Activity

Ad Hoc Reviewer for High Impact Journals and Conference	Jan 2020 - Present
Co-instructor of Workshop “Advancing Quantitative Science with Monte Carlo Simulation"	Aug 2021
Graduate Teaching Assistant	Aug 2019 - May 2021
Graduate Research Assistant	Aug 2019 - Present