Exponent®
Engineering & Scientific Consulting

Jonathan Che, Ph.D.

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Professional Profile

Dr. Jonathan Che brings his deep understanding of applied statistics to develop clear and effective solutions for data-driven problems. He has extensive experience in gleaning actionable insights from both big and small data, with expertise in statistical modeling and experimental design/analysis. His background spans the full data science lifecycle, from data discovery and cleaning to visualization and communication. In addition, he has research-level experience with using R and Python to work on regression modeling, machine learning, Bayesian methods, large-scale simulation, optimization, time-series modeling, statistical testing, data scraping and processing, and the statistical inference of causal relationships from both experimental and non-experimental data.

Jonathan received his PhD in statistics from Harvard University, where his research both developed novel statistical methods to address new challenges and deepened understanding of existing methods to help scientists use them better in their day-to-day. His dissertation focused on improving evaluations of experimental and non-experimental trials in education and the social sciences, as well as improving methods for estimating athletes' abilities.

Throughout his academic career, Jonathan has served as a statistical consultant for hundreds of researchers, helping individuals with all types of statistical backgrounds translate their complex scientific problems into clear statistical tests and models. His research collaborations have led him to work and develop expertise in a wide range of fields, including evaluating model validation techniques for forest data, constructing bespoke models for baseball player scouting, analyzing transcripts of children's speech patterns, improving the efficiency of large-scale A/B tests, and conducting cluster simulations to assess analyses of educational experiments.

Academic Credentials & Professional Honors

Ph.D., Statistics, Harvard University, 2023

B.A., Statistics and Mathematics, Amherst College, 2018

NSF Graduate Research Fellowship, 2020

Phi Beta Kappa, 2018

Professional Affiliations

American Statistical Association

Publications

Che J, Glickman M. Athlete rating in multi-competitor games with scored outcomes via monotone transformations: Annals of Applied Statistics 2024.

Presentations

Che J. On power analyses for individual site impacts in multisite trials. Invited talk, SREE Conference, Washington, DC, 2022.

Che J and Miratrix, L. Caliper Synthetic Matching. Poster presentation, American Causal Inference Conference, Berkeley, CA, 2022.

Che, J and Glickman, M. Athlete rating in multi-competitor games with scored outcomes via monotone transformations. Invited talk, New England Symposium on Statistics in Sports, virtual, 2021.

Peer Reviews

Journal of Quantitative Analysis in Sports