Eric Ho, PhD

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Summary

- Educational researcher, lecturer, and data scientist with a Doctor of Philosophy in Education from the UCLA School of Education and Information Studies (Social Research Methodology Division), graduated from Columbia University with a Bachelor of Arts in Data Science (formerly Computer Science and Statistics) with a Special Concentration in Educational Studies
- Passionate about education research and data science, with extensive experience teaching college students and analyzing educational data for schools and educational organizations
- Gained experience in data cleaning, manipulation, modeling/analysis, and visualization through work in the education and nonprofit sectors

Education

University of California, Los Angeles (UCLA) — Los Angeles, CA
Doctor of Philosophy in Education, Social Research Methodology Division; GPA: 3.97/4.0 — *Sept 2018 – June 2023*

University of California, Los Angeles (UCLA) — Los Angeles, CA
Master of Arts in Education, Social Research Methodology Division; GPA: 4.0/4.0 — *Sept 2018 – June 2019*

Columbia University in the City of New York — New York, NY
Bachelor of Arts in Data Science, Special Concentration in Educational Studies; GPA: 3.85/4.0 — *Sept 2013 – May 2017*

Honors: Cum laude, Departmental Honors from the Department of Statistics

Skills

- **Programming Languages**: R, Stata, SQL, Python, Java, C, C++
- **Business Tools**: Tableau, LaTeX, Overleaf, Git, pgAdmin, Databricks
- **Foreign Language**: Cantonese (conversational)

Work Experience

U.S. Department of Education – Office for Civil Rights (OCR) — Washington, DC (remote work)
Statistician (GS-13) — *August 2024 – present*

- **Data Analysis**: writing R code and using Excel to calculate and verify state and national descriptive statistics, conduct data quality checks on the restricted-use data files, and address ad-hoc data analysis requests from the OCR front office related to the Civil Rights Data Collection (CRDC)
- **Contracting Duties**: serving on the Technical Evaluation Panel to review departmental work orders and audit contractor proposals based on service levels, technical competencies, and costs for the base year and option years
- **Supervision and Review of Contractor Deliverables**: supervising contractors and reviewing the reports, documentation, technical assistance documents, and data products they provide regarding the CRDC
- **Hiring**: reviewing resumes and selecting applicants for interviews for open statistician positions on the CRDC team

University of California, Los Angeles — Los Angeles, CA
Lecturer — *April 2024 – present*

- **Teaching**: teaching as the instructor of record for *EDUC 230A. Introduction to Research Design and Statistics* and *EDUC 230C. Linear Statistical Models in Social Science Research: Analysis of Designed Experiments* (see the *Teaching Experience* section for a list of courses) in asynchronous-online and synchronous-in-person formats and holding office hours to tutor students individually
- **Development of Course Materials**: developing and modifying course materials, including but not limited to course syllabi, PowerPoint slides, recorded lecture videos, R scripts, homework assignments, assessments, and other supplemental materials
- **Supervision**: supervising multiple teaching assistants in their grading of assignments and assessments and their execution of other assigned duties

McGraw Hill — Columbus, OH (remote work)
Data Scientist — *June 2022 – June 2024*

- **Computer Programming**: wrote production-quality code and unit tests underlying the McGraw Hill Plus (MH Plus) product using PySpark within Databricks to integrate more products into MH Plus; wrote the ingestion and proficiency scripts to successfully integrate the Redbird and Achieve Math products into MH Plus
- **Psychometrics**: analyzed and refined psychometric models (such as diagnostic cognitive models) to measure student proficiency from multiple products such as Redbird, Achieve Math, and oral reading fluency assessments within the McGraw Hill Plus platform
- **Data Exploration**: cleaned, processed, and explored student interaction data and usage patterns from Redbird, Achieve Math, and other educational products; helped to debug eventing issues related to Achieve Math based on extensive data exploration and testing
- **Performance Testing**: analyzed historical product data to create test datasets under various scenarios and used those datasets to conduct performance testing on incremental updates to code pipeline to improve runtimes due to significant scaling of consumer demand for MH Plus for Back to School 2023-2024

American Institutes for Research Crystal City, VA (remote work)
Researcher Intern *June 2022 – August 2022*

- **Process Data Manipulation**: created useful process data variables such as first student actions and frequencies of tool use from restricted-use NAEP data using R
- **Data Visualization**: developed an R Shiny application that provides useful data visualizations to educators and researchers to help them understand their process data
- **Memo and Academic Writing**: wrote a technical memo and conference paper describing the Shiny application and its use in distinguishing the behaviors of NAEP Below Basic and Basic students, both of which were presented to the National Center of Education Statistics officers and to attendants of the 2023 National Council on Measurement in Education Annual Meeting attendees

Los Angeles Unified School District Board of Education Los Angeles, CA (remote work)
Professional Expert (Independent Analysis Unit) *June 2021 – June 2022*

- **Data Analysis**: analyzed the patterns of student enrollment and departures from the LAUSD over a period of a few years and by demographic subpopulations using descriptive statistics and multilevel logistic regression models in Stata and descriptive visualizations with Tableau
- **Briefings**: helped to summarize and disseminate important educational policy briefs and news articles to the LAUSD Board of Education

Catalyst California Los Angeles, CA (remote work)
Research and Data Analyst *July 2021 – Sept 2021*

- **Data Fulfillment and Analysis**: updated indicators and indices for various issue areas (e.g. education, crime and justice) on **racecounts.org** by downloading data; calculating averages, proportions, and margins of error from complex survey data; calculating indices of disparity, z-scores, and other summary statistics; and updating R Markdown visualizations (highcharter R package) using R and SQL
- **Quality Assurance**: proofread existing R and SQL scripts for updating **racecounts.org** indicators

University of California, Los Angeles Los Angeles, CA
Graduate Student Researcher and Teaching Fellow *Jan 2019 – June 2023*

- **Education Research**: conducted education research in a variety of fields ranging from quasi-experimental studies, program evaluations, social network analyses, and psychometric analyses, with work including but not limited to conceptualizing research ideas, conducting requisite data analyses, and drafting manuscripts (please see "Publications")
- **Computer Programming**: wrote R code to implement extensions and applications of Bayesian latent space models for item response analysis, to evaluate reliability of measures from the models, and to create a user-friendly R Shiny application under the supervision of Dr. Minjeong Jeon
- **Course Development**: created R modules and course materials for *EDUC 150. Introduction to Quantitative Research in Education: Claims and Evidence* and *EDUC 151. Introduction to Measurement and Assessment in Education*
- **Grant Writing**: drafted research proposals for grants from various foundations, such as the Spencer Foundation and the William T. Grant Foundation

Alliance College-Ready Public Schools Los Angeles, CA
Strategic Data Analyst *July 2017 – Aug 2018*

- **Data Fulfillment and Reporting**: extracted, cleaned, and transformed data from state research files and Schoolzilla to maintain school operating plans and prepare reports for teachers, school board members, and charter school renewal and compliance purposes
- **Data Analysis**: performed quartile analyses on school performance data (e.g. teacher survey data) and created models for target setting on school-related metrics such as CAASPP pass rates
- **Survey Administration**: administered surveys and disaggregated and analyzed survey data to monitor organizational health

Teaching Experience

EDUC 230A. Introduction to Research Design and Statistics Los Angeles, CA
Lecturer in the Department of Education, UCLA *September 2024 – present*

EDUC 230C. Linear Statistical Models in Social Science Research: Analysis of Designed Experiments Los Angeles, CA
Lecturer in the Department of Education, UCLA *April 2024 – present*

Educational Leadership Program Los Angeles, CA
Statistics Tutor for Ed.D. students in UCLA's Educational Leadership Program *November 2020 – June 2023*

EDUC 35. Introduction to Inquiry and Research in Education Los Angeles, CA
Teaching Associate/Teaching Fellow in the Department of Education, UCLA *Sept 2021 – June 2022*

EDUC 151. Introduction to Measurement and Assessment in Education Los Angeles, CA
Teaching Associate in the Department of Education, UCLA *January 2021 – March 2021*

EDUC 35. Introduction to Inquiry and Research in Education Los Angeles, CA
Teaching Assistant in the Department of Education, UCLA *Oct 2019 – June 2020*

COMS W1004. Introduction to Computer Science and Programming in Java New York, NY
Teaching Assistant in the Department of Computer Science, Columbia University *Sept 2016 – May 2017*

Statistics Help Room New York, NY
Help Room Tutor in the Department of Statistics, Columbia University *Jan 2016 – May 2016*

Publications

Darling-Hammond, S., & **Ho, E.** (2024). No matter how you slice it, Black students are punished more: The persistence and pervasiveness of discipline disparities. *AERA Open, 10*. https://doi.org/10.1177/23328584241293411

Ho, E., Seltzer, M., & Jeon, M. (2024). Are teachers meeting students' needs in untracked science classrooms? Evidence based on a causal inferential approach. *PLoS ONE, 19*(4), Article e0300587. https://doi.org/10.1371/journal.pone.0300587

Ho, E., & Jeon, M. (2023). Interaction map: A visualization tool for personalized learning based on assessment data. *Psych, 5*(4), 1140-1155. https://doi.org/10.3390/psych5040076

Bowers, A.J., Zhao, Y., & **Ho, E.** (2022). Towards hierarchical cluster analysis heatmaps as visual data analysis of entire student cohort longitudinal trajectories and outcomes from Grade 9 through college. *The High School Journal, 106*(1), 5-36. https://doi.org/10.1353/hsj.2022.a906700

Luo, J., Jeon, M., Lee, M., **Ho, E.**, Pfammatter, A.F., Shetty, V., & Spring, B. (2022). Relationships between changing communication networks and changing perceptions of psychological safety in a team science setting: Analysis with actor-oriented social network models. *PLoS ONE, 17*(8), Article e0273899. https://doi.org/10.1371/journal.pone.0273899

Ho, E., Jeon, M., Lee, M., Luo, J., Pfammatter, A.F., Shetty, V., & Spring, B. (2021). Fostering interdisciplinary collaboration: A longitudinal social network analysis of the NIH mHealth Training Institutes. *Journal of Clinical and Translational Science, 5*(1), Article e191. https://doi.org/10.1017/cts.2021.859

Conference Presentations

Ho, E., Boyd, B., Hicks, J., & Hemphill, C. (2023, April 13—15). *Operation REQUISITE: Re-envisioning Educational Quantitative User Information: Shiny Interface to Explore* [Demonstration session]. NCME Annual Meeting, Chicago, IL, United States.

Ho, E., & Jeon, M. (2023, April 13—15). *Visualizing assessment data for personalized learning using the interaction map approach* [Paper session]. NCME Annual Meeting, Chicago, IL, United States.

Bowers, A.J., Zhao, Y., & **Ho, E.** (2022, April 21—26). *Towards hierarchical cluster analysis heatmaps as visual data analysis of entire student cohort longitudinal trajectories and outcomes from grade 9 through college* [Paper session]. AERA Annual Meeting, San Diego, CA, United States.

Ho, E., & Jeon, M. (2021, October 21—22). *Supporting instruction and student learning through interaction maps* [Poster session]. NCME Classroom Assessment Conference, virtual.

Ho, E., & Jeon, M. (2020, April 16—20). *Latent space item response modeling approach for binary and continuous item responses* [Research blitz]. NCME Annual Meeting, San Francisco, CA, United States. (Conference Canceled)

Fellowships & Awards

Dissertation Year Fellowship — Los Angeles, CA
UCLA Graduate Division — *Oct 2022 – Oct 2023*

Graduate Research Mentorship Award — Los Angeles, CA
UCLA Graduate Division — *Sept 2020 – June 2021*

H. Elwood Zillgitt and Mildred Bostwick Finney Fellowship — Los Angeles, CA
UCLA School of Education and Information Studies — *Sept 2020 – June 2021*

Graduate Summer Research Mentorship Award — Los Angeles, CA
UCLA Graduate Division — *June 2019 – Sept 2019, June 2020 – Sept 2020*

Gordon and Olga Smith Fellowship — Los Angeles, CA
UCLA School of Education and Information Studies — *Sept 2018 – June 2019, April 2023*

Service

- Social Research Methodology Division Student Representative Committee (2020 – 2022)
- Undergraduate Major Advisory Committee (2020 – 2021)

Projects

- **California Schools and CAASPP/SAT**: A Tableau workbook that displays all California public schools, color-coded by the percentage of students meeting or exceeding standards on the CAASPP (state exam) and average SAT scores, and average income by zip code
- **Heatmap Cluster Analysis App**: An application created using the Shiny package in R that produces annotated interactive heatmaps from uploaded data. Created for a paper submitted for publication with Dr. Alex Bowers
- **UC Data for Mark Keppel High**: An application created using the Shiny package in R that displays acceptance, admission, and enrollment rates for various UC schools for students from my old high school