Easton Huch

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An updated CV and working papers are available at my personal website: eastonhuch.com

Research Interests

I am a statistician and causal inference methodologist by training. Most of my previous and current research involves developing **advanced causal inference** methods, especially in **dynamic treatment regimes**. Previous projects in this area include developing (1) data integration methods for micro-randomized trials, (2) a robust contextual bandit algorithm for longitudinal data based on the debiased machine learning (DML) framework, and (3) a randomization-based framework for Bayesian causal inference.

I have performed professional work in several areas of quantitative marketing, including **online experimentation**, **advertising effectiveness**, **customer lifetime value modeling**, and **general business analytics**. In applying to academic positions in marketing, my objective is to begin applying my expertise and methods within these and other substantive areas in marketing. I also plan to continue my methodological work in my areas of expertise, namely causal inference, Bayesian methods, and machine learning.

Education

2021 – Present   🔖 **Ph.D. in Statistics**, University of Michigan (expected August 2025)
- Thesis Title: *Robust Bayesian Inference via Discrepancy Functions With Applications to Mobile Health*
- Co-Advisors: Professors Fred Feinberg and Walter Dempsey
- Committe Members: Johann Gagnon–Bartsch and Colin Fogarty
- Certificate: Graduate Certificate in Entrepreneurship and Innovation
- GPA: 4.00

2017 – 2019   🔖 **M.S. in Statistics**, Brigham Young University
- Thesis Title: ideq*: An R Package for Dynamic Spatio-temporal Models*
- Professor Robert Richardson
- GPA: 4.00

2012 – 2019   🔖 **B.S. in Economics & Statistics**, Brigham Young University
- Minor: Mathematics
- GPA: 3.97

Research Publications

Under Review

1   **Huch**, **E**, W Dempsey, I Nahum–Shani, L Potter, and D Wetter (2024). Data integration methods for micro-randomized trials. *(Revise & resubmit) Biometrics*. 🔗 https://arxiv.org/abs/2403.13934.

2   **Huch**, **E**, J Shi, M Abbott, J Golbus, A Moreno, and W Dempsey (2023). A Robust Mixed-Effects Bandit Algorithm for Assessing Mobile Health Interventions. *(Under review) NeurIPS 2024*. 🔗 https://arxiv.org/abs/2312.06403.

In Progress[*]

1   **Huch**, **E**, W Dempsey, and F Feinberg (2025). Bayesian permutation inference: Likelihood-free Bayesian inference of regression parameters via permutation distributions.

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[*]I expect to submit these projects for review in the next 12 months. Several of these projects have working papers that can be downloaded from my website: eastonhuch.com.

2   **Huch**, **E**, W Dempsey, and F Feinberg (2024). Robust Bayesian inference of causal effects via randomization distributions. *(Anticipated) Journal of the Royal Statistical Society – Series B*.

3   **Huch**, **E**, M Ferlic, C Berrett, and K Sellers (2024). Computationally efficient models for count data with varying levels of dispersion. *(Anticipated) Management Science*.

Software

1   **Huch**, **E** and R Richardson (2019). ideq: An R Package for Dynamic Spatio-temporal Models.
🔗 https://github.com/eastonhuch/ideq.

Teaching

2023   🔖 **Data Science Mentor**, Veritas AI
- Mentor high-school students taking an online AI course
- Help students with practice programming problems and final project

2023 – 2024   🔖 **Data Science Mentor**, Great Learning
- Mentored working professionals taking an online course in data science and business analytics
- Maintained an overall rating of 4.89/5.00

2021 – 2022   🔖 **Graduate Student Instructor**, Department of Statistics, University of Michigan
- Led labs, created course content, and assisted with grading
- Courses: Statistics and Artificial Intelligence (STATS 315), Data Mining and Statistical Learning (STATS 415), & Intro to Statistics and Data Analysis (STATS 250)

2017 – 2018   🔖 **Teaching Assistant**, Department of Statistics, Brigham Young University
- Assisted students with data analysis projects
- Course: Applied SAS Programming (Stat 224)

Professional Experience

2024   🔖 **Applied Scientist Intern**, Zillow Group (3 mos)
- Summer intern on the experimentation platform team
- Leading a research project to develop an "Overall Evaluation Criterion" (OEC) that appropriately weighs the observed effects on multiple business metrics
- We plan to publish the method and results in a top-tier marketing journal, such as Marketing Science (pending legal approval)

2023 – Present   🔖 **Freelance Data Scientist**, Self-employed (1 yr 8 mos)
- Work with various clients on applied data science problems in the technology, education, and advertising industries
- Maintain 100% job success and 4.9/5.0 rating on completed projects
- Previous projects include measuring the effectiveness of promotions, regression analysis on sales call data, clustering job applicants, and data analytics infrastructure improvements
- Public profile: upwork.com/freelancers/~015bb6b43d3d54fff4

Professional Experience (continued)

2022 **Data Science Intern**, Recursion Pharmaceuticals (4 mos)
- Worked on the drug discovery inference team
- Analyzed effectiveness of RNA guide design
- Quantified uncertainty in AI-derived biological metrics

2017 – 2021 **Data Scientist**, Lucid Software (3 yrs, 8 mos)
- Forecasted account growth to optimize sales quotas and territories for 200+ reps
- Implemented customer lifetime value models, resulting in $1M+ in savings annually
- Advised on online experimentation (A/B testing) and developed Bayesian testing framework

2016 – 2017 **Product Specialist**, Qualtrics (1 yr 1 mo)
- Provided customer service for survey tool users
- Assisted with client data analysis and Portuguese translation projects

2015 – 2016 **Financial Aid Assistant**, Brigham Young University (7 mos)
- Administered federal aid and off-campus scholarships
- Performed data entry of financial information

Awards

2024 **Best Poster Presentation**, MSSISS 2024, University of Michigan
For presenting *Data integration methods for micro-randomized trials*

2019 **Magna Cum Laude**, Brigham Young University
Awarded to top-5% of undergraduates at graduation

2018 – 2019 **Department Scholarship**, Statistics Department, Brigham Young University
Full-tuition academic scholarship for M.S. in Statistics

2015 – 2018 **Dean's List**, College of FHSS, Brigham Young University
Awarded to top-5% of students within the College of Family, Home and Social Sciences (FHSS)

2012 – 2018 **Heritage Scholarship**, Brigham Young University
Full-tuition academic scholarship for B.S. in Economics & Statistics

2010 **Eagle Scout**, Boy Scouts of America

Presentations

2024 **INFORMS 2024**, Seattle, Washington
Will deliver 15-minute oral presentation titled *Robust Bayesian Inference of Causal Effects via Randomization Distributions*

JSM 2024, Portland, Oregon
Will deliver 15-minute oral presentation titled *Data Integration Methods for Micro-randomized Trials*

MSSISS 2024, University of Michigan
Presented poster titled *Data Integration Methods for Micro-randomized Trials*

CATIE 2024, University of Michigan
Presented module titled *SMARTs with Repeated Outcome Measurements* to education researchers

Presentations (continued)

2023   🔖 **MSSISS 2023**, University of Michigan

Delivered 15-minute oral presentation titled *Bayesian Randomization Inference: A Distribution-free Approach to Causal Inference*

2019   🔖 **Master's Thesis Defense**, Brigham Young University

Successfully defended master's thesis: `ideq`: *An R Package for Dynamic Spatio-temporal Models*

Volunteer Experience

2024   🔖 **Volunteer for CATIE 2024**, d3 Center, University of Michigan

Assist in planning and executing CATIE 2024, a conference to train education researchers in the use of adaptive interventions (e.g., SMARTs)

2023 – 2024   🔖 **Executive Chair**, PhD Council, Statistics Department, University of Michigan

Lead student-run PhD council, which assists the department with recruiting, computing resources, social event planning, and office-space logistics

2013 – 2015   🔖 **Volunteer Representative**, Nonprofit Organization in São Paulo, Brazil

Participated in service projects, managed finances for volunteer organization, trained and led other volunteers, and learned Brazilian Portuguese

2012 – 2013   🔖 **NCAA Division 1 Athlete**, Brigham Young University

Walk on athlete for the cross country and track teams, specializing in the 1500m/mile run

Skills

Languages   🔖 Native English, advanced Portuguese, intermediate Spanish

Programming   🔖 Python, TensorFlow, Pytorch, R, Bash, SQL, Scala, C++, LaTeX

Software Tools   🔖 Unix, git, Docker, make, Stan, dbt, Tableau, Domo, Snowflake, Postgres, Apache Spark

References

Available upon request