Raiden B. Hasegawa, Ph.D.

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EDUCATION

2014-2019 Ph.D., Statistics, The Wharton School, University of Pennsylvania
Dissertation title: *Essays in Causal Inference: Addressing Bias in Observational and Randomized Studies Through Analysis and Design*
Advisor: Professor Dylan S. Small

2012-2013 Additional graduate coursework, Scientific Computing, Courant Institute of Mathematical Sciences, New York University

2006-2010 B.A., *cum laude*, *Distinction in Major*, Economics, Yale University

PROFESSIONAL EXPERIENCE

2019-Present Google, Data Scientist
Hierarchical time series forecasting for Google-wide compute infrastructure planning.
Programming Languages: R, Python, GoogleSQL

2012-2014 Federal Reserve Bank of New York, Research Associate
Research Areas: Bayesian macroeconomic forecasting, Bayesian VAR models, particle filtering, parallel scientific computing
Programming Languages: Matlab, Stata and Python, Bash and Awk scripting

2011-2012 GreenOrder, Sustainability Analyst
Provided management and strategy consulting services to Fortune 500 companies with a focus on sustainability

2010-2011 DC Energy, Investment Analyst
Designed, tested and implemented quantitative trading strategies in wholesale power markets.
Programming Languages: PHP, MySQL, R

PUBLICATIONS (⋆ denotes co-first authors, equal contributions)

- Deshpande, Sameer K., **Hasegawa, Raiden B.**, Weiss, Jordan, Small, Dylan S. (2020). The association between adolescent football participation and early adulthood depression. *PLoS ONE 15(3): e0229978,* doi:10.1371/journal.pone.0229978.

- **Hasegawa, Raiden B.**, Deshpande, Sameer K., Small, Dylan S., and Rosenbaum, Paul R. (2020). Causal Inference with Two Versions of Treatment. *Journal of Educational and Behavioral Statistics,* doi:10.3102/1076998620914003.

- **Hasegawa, Raiden B.**, Small, Dylan S., and Webster, Daniel W. (2019). Bracketing in the Comparative Interrupted Time-Series Design to Address Concerns about History Interacting with Group: Evaluating Missouri Handgun Purchaser Law. *Epidemiology*, 30, 3, 371-379. **Runner up for the the Rothman Epidemiology Prize, 2020**.

- Fogarty, Colin B.* and **Hasegawa, Raiden B.*** (2019). Extended sensitivity analysis for heterogeneous unmeasured confounding with an application to sibling studies of returns to education. *Annals of Applied Statistics*, 13, 2, 767-796.
- Deshpande, Sameer K.*, **Hasegawa, Raiden B.*** et al. (2017). Association of Playing High School Football with Cognition and Mental Health Later in Life. *JAMA Neurology*, 74, 8, 909-918.
- **Hasegawa, Raiden B.** and Small, Dylan S. (2017). Sensitivity Analysis for Matched Pair Studies of Binary Data: From Worst Case to Average Case Analysis. *Biometrics*, 73, 4, 1424-1432.
- Del Negro, Marco, **Hasegawa, Raiden B.**, and Schorfheide, Frank (2016). Dynamic Prediction Pools: An Investigation of Financial Frictions and Forecasting Performance. *Journal of Econometrics*, 192, 22, 391-405.

SUBMITTED PAPERS

- **Hasegawa, Raiden B.** and Small, Dylan S. (2020+). Estimating Malaria Vaccine Efficacy in the Absence of a Gold Standard Case Definition: Mendelian Factorial Design. *Revision submitted to Journal of the American Statistical Association*.
- Ye, Ting, Keele, Luke, **Hasegawa, Raiden B.**, and Small, Dylan (2020). A Negative Correlation Strategy for Bracketing Difference-in-Differences with Application to the Effect of Voter Identification Laws on Voter Turnout. *Under Review for Annals of Applied Statistics*.

MANUSCRIPTS IN PROGRESS

- **Hasegawa, Raiden B.** Covariance Adjustment in Matched Pair Observational Studies: Choosing Adjustment Algorithms for Power and Design Sensitivity.

RESEARCH INTERESTS

causal inference • design and analysis of observational studies • sensitivity analysis • evidence factors and multiple comparisons • statistical applications in social and biomedical sciences

CONFERENCE PRESENTATIONS AND POSTERS

- *Effects of Playing High School Football on Mental Health in Early Adulthood: An Observational Study* ■ Add Health Users Conference, Jul 2018 @ NIH
- *Extended Sensitivity Analysis for Heterogeneous Unmeasured Confounding with an Application to Sibling Studies of Returns to Education* ■ Atlantic Causal Inference Conference, May 2018 @ CMU

AWARDS

– **Runner up for the Rothman Epidemiology Prize, 2020**
Awarded to the "best paper published in the journal *Epidemiology* in the preceding year;" for the paper *Evaluating Missouri's Handgun Purchaser Law: A Bracketing Method for Addressing Concerns about History Interacting with Group*.

– **National Science Foundation Travel Award, 2018**
Awarded to the five best junior researcher posters at the 2018 Atlantic Causal Inference Conference; for the poster *Extended Sensitivity Analysis for Heterogeneous Unmeasured Confounding with an Application to Sibling Studies of Returns to Education*

TEACHING

2014-2018 Department of Statistics, The Wharton School, University of Pennsylvania *(TA)*
STAT 101 & 102: Introductory Business Statistics
STAT431: Mathematical Statistics
STAT471: Intermediate Statistics
STAT474: Modern Regression for Social, Behavioral and Biological Sciences
STAT613: Regression Analysis for Business

2016-2018 Wharton Moneyball Academy *(Graduate Instructor)*
Sports data science summer course for advanced high school students.

CONSULTING EXPERIENCE

2016-2017 Race-based bias in personal property insurance payouts case, *Statistical Expert*
– Expert report led to a "fair and balanced settlement."
– Methods: clusted logistic regression used to assess the correlation between racial composition and proportion of insurance claims outstanding by zipcode-year.

2016 Electricians' union discrimination case, *Statistical Expert*
– Methods: robust permutational tests used to assess the possible presence of racial bias in the "quality" of jobs assigned by an electricians' union to its members.

PROGRAMMING EXPERIENCE

In order of proficiency/experience: R, Matlab, Python, C++, Haskell, SQL, Bash, Stata