Justin Williams

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EDUCATION

University of California, Los Angeles (UCLA)
Ph.D. – Biostatistics *2020*
M.S. - Biostatistics *2016*

Boston College
B.A. – Mathematics *2013*

WORK EXPERIENCE

Senior Quantitative Analyst *November 2022 - Present*
Los Angeles Dodgers

Quantitative Analyst *August 2020 – October 2022*
Los Angeles Dodgers

- Built performance model in collaboration with amateur scouting department to quantify expected hitter performance
- Led productization efforts for prediction and re-train tasks using Airflow and dependency management solutions
- Developed and deployed internal repository to host proprietary R packages

Graduate Student Researcher *2015 - 2019*
Connie Kasari Lab

- Constructed Bayesian multi-level hierarchical model incorporating spatial random effects
- Established longitudinal data visualization tools available in GitHub R package, `ggplot.spaghetti`
- Clinical trial longitudinal analysis using mixed effects and generalized estimating equations
- Adjusted for empirical trends using zero-inflated and hurdle models with count outcomes
- Automated analysis for inter rater reliability
- Data management and data cleaning for multisite clinical trial database

Product Development Biostatistics Intern *Summer 2019*
Genentech

- Designed software to simulate longitudinal differential abundance for microbiome: `microbiomeDASim`
  - Flexibly specify form of the trend over time including polynomial, oscillating, or hockey stick trends
  - Define desired sample size, number of repeated measures, and signal:noise ratio
  - Multiple choices for longitudinal dependence including: AR(1), compound, or independent
- Compared multiple methods for estimating differential abundance over time

Biostatistics R&D Intern *Summer 2018*
Alcon

- Developed methodology for parameter estimation of censored data from truncated normal distribution
- Investigated available methods for estimation with left censoring using R and SAS
- Produced functions and macros to simulate data and calculate bias metrics
- Applied methods to estimate parameters for historical clinical trial data

SOFTWARE SKILLS

R (coursework/teaching/research/work/preferred)
Python (research)
Git (*GitHub*; *GitLab*)
SQL (*PostgreSQL; MySQL*)
Stata (coursework/teaching)
AWS (*EC2, S3, ERS*)
Julia (coursework)
SAS (internship/coursework/teaching/work)

RESEARCH INTERESTS

-Causal Inference	-Longitudinal Analysis	-Machine Learning
-Bayesian Analysis	-Spatial Modeling	-Trial Design

PUBLICATIONS

Academic Journals

(1) Melamed, K.H, Williams, J., Wang, X., Hu S., Nguyen C., Cui, J., & Deng, J.C. "Development of secondary bacterial pneumonia in adults presenting with influenza versus noninfluenza viral respiratory infection". *Therapeutic Advances in Respiratory Diseases*, **14**. doi:10.117/1753466620963026

(2) Williams, J.R., Crespi, C.M. (2020). "Causal inference for multiple continuous exposures via the multivariate generalized propensity score", *arXiv preprint.* arXiv:2008.13767.

(3) Williams, J.R., Kim, H., & Crespi, C.M. (2020). "Modeling observations with a detection limit using a truncated normal distribution with censoring", *BMC Med Res Methodol*, **20**:170. doi:10.1186/s12874-020-01032-9.

(4) Dean, M., Williams, J., Kasari, C., & Orlich, O. (2020). "Adolescents with autism spectrum disorder and social skills groups at school: A randomized trial comparing intervention environment and peer composition", *School Psychology Review*, **49**(1):60-73. doi:10.1080/2372966X.2020.1716636

(5) Williams, J., Bravo HC, Tom J & Paulson JN. (2020). "microbiomeDASim: Simulating longitudinal differential abundance for microbiome data [version 2; peer review: 2 approved]", *F1000Research* **8**:1769. doi:10.12688/f1000research.20660.2.

(6) Gulsrud, A., Carr, T., Williams, J., Panganiban, J., Jones, F., Kimbrough, J., Shih, W., & Kasari, C. (2019). "Developmental screening and early intervention in a childcare setting for young children at-risk for autism and other developmental delays: A feasibility trial", *Autism Research* **12**(9):1423-1433. doi:10.1002/aur.2160

(7) Locke, J., Williams, J., Shih, W., & Kasari, C. (2017). "Characteristics of socially successful elementary school-aged children with autism", *Journal of Child Psychology and Psychiatry* **58**(1):94-102. doi:10.1111/jcpp.12636

AWARDS & HONORS

- **Dissertation Year Fellowship** ($20,000)

Awarded By: *UCLA Graduate Division*
Received: December 2019 – December 2020

- **Most Outstanding Oral Presentation** ($500)

Awarded By: *Western North American Region of the International Biometric Society*
Received: June 2019

- **Juneal Marie Smith Fellowship in International Nutrition** ($2,500)

Awarded By: *UCLA Fielding School of Public Health*
Received: June 2019

- **Graduate Summer Research Mentorship** ($6,000)

Awarded By: *UCLA Graduate Division*
Received: June 2017 – September 2017