

Josue E. Rodriguez



EDUCATION

University of California, Davis

PhD, Quantitative Psychology
Emphasis in Computational Social Science

Davis, CA
Expected 2023

Cal Poly Humboldt

MA, Experimental Psychology
Minor in Statistics
BA, Psychology

Arcata, CA
2019
2017

EXPERIENCE

Data Scientist Intern, IBM

Jun 2022 – Sep 2022

Advanced the development of the AI Fairness 360 toolkit to detect and mitigate bias in machine learning models. Worked on a cross-functional team of product managers and strategy consultants where I developed an analytics pipeline for one of IBM's Data and AI products. Contributed to product strategy by delivering actionable insights using Bayesian statistics and predictive models. Developed a questionnaire and an unstructured interview format to obtain data regarding product experience.

Data Scientist Intern, Spacee

Sep 2021 – Dec 2021

Conducted exploratory data analysis, developed unsupervised learning models, and performed research around data key to successful company products and metrics. Implemented Python code into a core data pipeline and conducted field research around the company's operational envelope. Brought an industrious and enthusiastic attitude to work every day.

PUBLICATIONS

Peer-reviewed

5. **Rodriguez, Josue E.**, & Williams, D. R. (2022b). Psymetadata: An r package containing open datasets from meta-analyses in psychology. *Journal of Open Psychology Data*, 10(1)
4. **Rodriguez, J. E.**, Williams, D. R., & Rast, P. (2021). Who Is and Is Not "Average"? Random effects selection with spike-and-slab priors. Accepted at *Psychological Methods*. [preprint](#).
3. **Rodriguez, Josue E.**, & Williams, D. R. (2022a). Painless Posterior Sampling: Bayesian Bootstrapped Correlation Coefficients. *The Quantitative Methods for Psychology*, 18(1), 39–54. <https://doi.org/10.20982/tqmp.18.1.p039> [preprint](#).
2. Karr, J. E., **Rodriguez, Josue E.**, Goh, P. K., Martel, M. M., & Rast, P. (2022). The unity and diversity of executive functions: A network approach to life span development. *Developmental Psychology*, 58(4), 751–767. <https://doi.org/10.1037/dev0001313>
1. Williams, D. R., & **Rodriguez, J. E.** (2020). Why Overfitting is Not (Usually) a Problem in Partial Correlation Networks. <https://doi.org/10.31234/osf.io/8pr9b>. Accepted at *Psychological Methods*. [preprint](#).

Under Review

3. **Rodriguez, J. E.**, Williams, D. R., & Bürkner, P.-C. (2021). Heterogeneous Heterogeneity by Default: Testing categorical moderators in random-effects meta-analysis. Under review at *British Journal of Mathematical and Statistical Psychology*. [preprint](#).
2. Karr, J. E., **Rodriguez, J. E.**, Goh, P. K., Martel, M. M., & Rast, P. (2021). A network analysis of executive functions in children and adolescents with and without attention-deficit/hyperactivity disorder. Under review at *Journal of Attention Disorders*.
1. Williams, D. R., **Rodriguez, J. E.**, & Bürkner, P.-C. (2021). Putting Variation into Variance: Modeling between-study heterogeneity in meta-analysis. Under review at *Psychological Methods*. [preprint](#).

Working Papers

2. Rast, P., Martin, S. R., & **Rodriguez, J. E.** (2020). Bayesian multivariate garch models for within-person variance forecasting. [preprint](#).
1. **Rodriguez, J. E.**, Williams, D. R., Rast, P., & Mulder, J. (2020). On Formalizing Theoretical Expectations: Bayesian Testing of Central Structures in Psychological Networks. <https://doi.org/10.31234/osf.io/zw7pf> [preprint](#).

POSTER PRESENTATIONS

1. **Rodriguez, J. E.**, Sanchez, K., Camarena, J., Clark, C., & Swancoat, B. (2017). Mazes and memory: Lifestyle and experience in spatial ability [97th annual meeting of the Western Psychological Association, Sacramento, CA, United States.]
2. Kuljian, O., Sherburne, B., Camarena, J., **Rodriguez, J. E.**, Hackett, J. D., & Gaffney, A. M. (2018). Effects of nationalist leadership on identification with humanity [19th annual meeting of the Society for Personality and Social Psychology. Atlanta, GA, United States.]
3. Siefert, E., Scott, B., **Rodriguez, J. E.**, Chu, B., Kijisriopas, B., & Gaffney, A. M. (2018). Confidence of understanding mediates the relationship between ingroup slang and a sense of peer similarity [98th annual meeting of the Western Psychological Association. Portland, OR, United States.]
4. Ortiz, N., **Rodriguez, J. E.**, Sherburne, B., Joma, V., & Aberson, C. (2018). Blaming it on affirmative action: Perceptions of denied opportunity [98th annual meeting of the Western Psychological Association. Portland, OR, United States.]
5. Chu, B., **Rodriguez, J. E.**, Sherburne, B., & Gaffney, A. M. (2018). Hella dope, confident understanding mediates the relationship between slang and multiple belonging needs [16th meeting of the International Conference on Language and Social Psychology. Edmonton, Alberta, Canada.]
6. Hang, S., **Rodriguez, J. E.**, Garcia, R., & Kilgore, H. (2018). Assessment of peripheral BDNF variability over 30 days in healthy adults [48th annual meeting of the Society for Neuroscience. San Diego, CA, United States.]
7. Karr, J. E., **Rodriguez, J. E.**, Rast, P., & Martel, M. M. (2021). Applying network analysis to executive functions: Differences in network parameters between children with and without attention-deficit/hyperactivity disorder [50th Annual Meeting of the International Neuropsychological Society]

SOFTWARE

1. **bayeslincom** (creator). An **R** package for testing linear combinations of Bayesian posterior samples. [CRAN](#). [GitHub](#).
2. **BBcor** (author). An **R** package for efficient sampling from the posterior distribution of various correlation coefficients. [CRAN](#). [GitHub](#).
3. **glaxo** (creator). An **R** package implementing the relaxed lasso algorithm for Gaussian Graphical Models [GitHub](#).
4. **psymetadata** (creator). An **R** package containing a collection of documented open datasets from meta-analyses in psychology research [CRAN](#). [GitHub](#).
5. **blsmeta** (author). An **R** package for Bayesian meta-analytic models, including fixed-effects, two-level, and three-level random-effects models. Moderators can be included for both the location and scale parameters via location-scale modeling. [GitHub](#).
6. **SSranef** (creator). An **R** package for Bayesian mixed effects models with spike-and-slab priors on the random effects. Corresponds to the methods in rodriguez2021who. [GitHub](#).

TEACHING EXPERIENCE

Graduate Student Teaching Assistant

Statistical Analysis of Experiments
Regression Modeling

University of California, Davis

Graduate Student Teaching Assistant

Introduction to Statistics
Social Psychology

Cal Poly Humboldt

COURSEWORK

- Probability Theory
- Analysis of Variance
- Multivariate Statistics
- Applied Bayesian Statistics
- Multilevel Modeling
- Regression Analysis
- Computational Social Science
- Psychometrics
- Causal Modeling

HONORS AND AWARDS

- NASEM FORD Fellowship, Honorable Mention 2020
- Outstanding Student of the Year Nominee, Cal Poly Humboldt 2017
- Presidential Scholar, Cal Poly Humboldt 2017
- Woolford Fellow of the Eureka Rotary Club 2017

PROFESSIONAL CERTIFICATIONS

DataCamp

Data scientist with Python

2018

Data scientist with R

2018

TECHNICAL SKILLS

- **Programming:** R (expert), Python (proficient), SQL (proficient), HTML (competent), CSS (novice), C# (novice)
- **Tools:** \LaTeX , Git, Docker, SPSS, Mathematica, Tableau, MATLAB, Snowflake, Airflow

AD-HOC REVIEWER

- Entropy (under the Supervision of Dr. Philippe Rast)
- Advances in Methods and Practices in Psychological Science