José Bayoán Santiago Calderón

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Education

2019	PhD Economics	Claremont Graduate University
2015	MA Economics	Claremont Graduate University
2014	BA Economics	Southwestern University

Fields of Research

Computational Economics, Program Evaluation, Data Science, Pharmacokinetics

Skills

Expertise: Econometrics, Data Science, and Machine Learning

Sofware: Julia, R, Python, SQL (Postgres), Linux, Slurm, Docker / Singularity, Stata, ArcGIS Pro, NetLogo, RESTful/GraphQL API

Appointments and Employment

Postdoctoral Research Associate

Social & Decision Analytics Division
Biocomplexity Institute & Initiative
University of Virginia

2019 – Current

My projects include a cooperative agreement with the National Center for Science and Engineering Statistics (NCSES) and work with the Defense Advanced Research Projects Agency (DARPA) on the Computational Simulation of Online Social Behavior (SocialSim) challenge. I also work closely with the Research Computing support team at the University of Virginia to ensure our team has access and knowledge to effectively use available computing resources for our research. During the Data Science for the Public Good Young Scholars summer program, I co-teach some of the lessons during the training and lead a project each summer.

ZiF Cooperation Group Member

Universität Bielefeld
Statistical Models for Psychological & Linguistic Data Group

2020 – Current

Participated in the Workshop II on Mixed Models in the Julia Programming Language convened by Reinhold Kliegl (Potsdam, GER) and Douglas Bates (Madison, USA). The activities included hackatons, presentations, and workshops we offered to researchers working with psycholinguistics data.

Software Developer

Pumas-AI 2018 – Current

Pumas is a Julia-based platform for pharmaceutical modeling and simulation. As a developer, I contributed to the module for data parsing and design data specification (i.e., parsing industry standard data, describing subjects, covariates, dosage regimens, events, observations, and population). In addition, I developed the module for conducting bioequivalence analysis.

Lead Developer

QuantEcon 2018 – Current

I am a maintainer for the QuantEcon.jl package and lectures in quantitative economics with Julia. Contributed to the redesign and update of the code and lectures from Julia v0 to v1.

Data Scientist and Software Developer

Residential Energy and Water Intelligence (Res-Intel) 2016 – 2018

Conducted a program evaluation of the California Advanced Home Program (CAHP) commissioned by Southern California Edison and developed the module for residential benchmarking. The work was performed using R and SQL. It included working with utility account billing data (e.g., grid, gas, solar, water), property data, and climate and weather data from the Global Historical Climate Network for the state of California. The module included an adapted version of the Energy Star Portfolio Manager methodology.

Research Assistant

Center for Neuroeconomics Studies 2014 – 2016

Helped design and run experiments as well as collect and clean data for several projects leading in neuroeconomics. My tasks included advertisement, recruitment, staff management, supervision, training, drug administration, payments, storage of samples, data cleaning, etc. I worked with tools such as z-Tree for computer experiments as well as eye tracking, electroencephalography (EEG), electrocardiogram (ECG), and electrodermal activity (EDA/GSR) through BIOPAC and iMotion.

Publications

José Bayoán Santiago Calderón. 2020. "Econometrics.jl" [in English]. In *6th JuliaCon Conference,* edited by Valentin Churavy and Mathieu Besançon. Baltimore, MD, USA. Forthcoming. https://proceedings.juliacon.org/papers

Presentations

José Bayoán Santiago Calderón, Brandon Lee Kramer, Gizem Korkmaz, Carol Robbins, Aaron Schroeder, and Keller Sallie. 2020. *Measuring the Cost and Impact of Open Source Software Innovation on GitHub.* Federal Committee on Statistical Methodology (FCSM) Computational Statistics and the Production of Official Statistics (CSPOS) Webinar on Blended Data. Washington, DC, May 1

José Bayoán Santiago Calderón, Vicki Lancaster, and Sarah McDonald. 2020. *Pathways to Jobs in the Skilled Technical Workforce.* Accepted to the Federal Committee on Statistical Methodology (FCSM) Research and Policy Conference but not presented because of COVID-19. Washington, DC, April 14

Carol Robbins, Gizem Korkmaz, José Bayoán Santiago Calderón, Daniel Chen, Aaron Schroeder, Claire Kelling, Stephanie S. Shipp, and Sallie Keller. 2019. *Open Source Software as Intangible Capital: Measuring the Cost and Impact of Free Digital Tools.* Government Advances in Statistical Programming (GASP!) Workshop. Washington, DC, September 23. https://youtu.be/xNQr9kCDJvo?t=2843

Carol A. Robbins, Gizem Korkmaz, José Bayoán Santiago Calderón, Claire Kelling, Stephanie Shipp, and Sallie Keller. 2018. *The Scope and Impact of Open Source Software: A Framework for Analysis and Preliminary Cost Estimates.* 35th IARIW General Conference: The Digital Economy-Conceptual and Measurement Issues. Copenhagen, Denmark, August 21. http://www.iariw.org/copenhagen/robbins.pdf

José Bayoán Santiago Calderón, Cong Cong, Calvin Isch, Eliza Tobin, Brandon Kramer, Aaron Schroeder, and Gizem Korkmaz. 2018. *Measuring the Universe of Open Source Software.* Data Science for the Public Good Program Symposium. Arlington, VA, August 9. https://bit.ly/2y7ryyD

José Bayoán Santiago Calderón, Kateryna Savchyn, Victoria Halewicz, Jessica Keast, Aaron Schroeder, and Gizem Korkmaz. 2018. *Economic And Social Impact Of Arlington Restaurant Initiative.* Data Science for the Public Good Program Symposium. Arlington, VA, August 9. https://bit.ly/3bDVjWh

José Bayoán Santiago Calderón, Keren Chen, Hannah Brinkley, Eirik Iversen, Daniel Chen, and Gizem Korkmaz. 2018. *Measuring the Cost and Value of Open Source Software.* Data Science for the Public Good Program Symposium. Arlington, VA, August 9. https://bit.ly/2VIo8vi

José Bayoán Santiago Calderón, Hannah Brinkley, Alexa Nosal, Kelsey McMahon, Megan Grondine, Aaron Schroeder, and Gizem Korkmaz. 2018. *Evaluating the Impact of the Arlington Restaurant Intitiative on Alcohol-Related Crimes in Clarendon.* Data Science for the Public Good Program Symposium. Arlington, VA, August 9. https://bit.ly/2Yc78zc

Yeshanew Belayneh, José Ruiz, Julieth Sáenz, and José Bayoán Santiago Calderón. 2014. *A Child's Well-Being: Food Insecurity and Antenatal Care (Nepal).* AEA Sumer Mentoring Pipeline Conference. Albuquerque, NM, July 26. https://bit.ly/3cYXEeR

Certificates

2019 Preparing Future Faculty Certificate in College Teaching
2017 Statistics with R, a 5-course specialization by Duke University on Coursera
2017 Machine Learning, a 4-course specialization by University of Washington on Coursera
2016 Fundamentals of Computing, a 7-course specialization by Rice University on Coursera
2015 Data Science, a 9-course specialization by Johns Hopkins University on Coursera

Teaching (Assistant)

2016 Advanced Research Methods (Graduate), Michigan State University
2015 Principles of Microeconomics (AP), Johns Hopkins University
2014 Intermediate Microeconomics (Undergraduate), Southwestern University
2014 Principles of Economics (Undergraduate), Southwestern University

References

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