Gonzalo Rivero

CONTACT

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EMPLOYMENT

Pew Research Center, Washington, DC (USA)

Associate Director. Data Labs. Methods & Innovation Unit.   Feb. 2021–Present

(a) Managed a team of researchers and engineers working in data science projects. Set technical and methodological standards and directed the modernization of the analytical infrastructure of the organization.

(b) Updated the internal management processes including hiring, onboarding, performance evaluation, communication practices, and project management. Set up collaboration methods with data scientists embedded in other teams.

(c) Worked with senior leadership to rewrite the strategic plan of the team. Redesigned the career progression of the data science and engineer professional families. Consolidated the open-source, reproducibility, and data sensitivity policies.

(d) Managed data science projects with national and international media attention.

Westat, Rockville, MD (USA)

Senior Data Science Manager (Principal Statistician). Statistics Unit.   Dec. 2020–Feb. 2021

Data Science Manager (Senior Statistician). Statistics Unit.   Jul. 2018–Dec. 2020

Senior Data Scientist (Senior Statistician). Statistics Unit.   Oct. 2015–Jul. 2018

(a) Built and led a data science practice to integrate machine learning and new data sources (text, images, audio, and video) into existing research processes. Served as principal consultant for data science and machine learning engineering.

(b) Standardized a research infrastructure for statistics and data science and consolidated the technological stack for machine learning engineering. Headed the adoption of modern practices for statistical software development in all technical teams.

(c) Managed cross-functional R&D projects with applications to public health, education, clinical trials social policy, and public opinion. Collaborated in the design and writing of responses to grants and RFPs from local, state, and federal agencies as technical expert.

YouGov, Palo Alto, CA (USA)

Statistical Scientist. Scientific Research Group.   Nov. 2014–Oct. 2015

Senior Analyst. Scientific Research Group.   Apr. 2013–Nov. 2014

(a) Maintained and developed the toolkit used for internal operations which included weighting and analysis of non-probability samples, construction of pseudo-sampling frames, and report automation for academic and market research. Automated data pipelines deploying to client-facing datamarts. Built tools for the monitoring of sample quality provided by vendors.

(b) Designed and led projects for the C-suite to experimentally evaluate the interview system and the standard interview practices. Developed NLP tools for automatic classification of survey questions, re-engineered the existing toolkit for Bayesian conjoint analysis, and built a system for open-ended classification in large-scale, multilingual online surveys.

TECHNICAL SKILLS

Languages: `Python`, `JavaScript`, `Go`

Professional experience with full-stack development in `Python`. Design and implementation of synchronous and asynchronous microservices using `Flask` including front-ends in `AngularJS`. Highly-skilled with the data science stack for data engineering, machine learning, and scientific computing. (`TensorFlow`, `spacy`, `transformers`, `numpy`, `scikit-learn`, `pandas`).

Statistics:	R, Python, Stan/Jags, Stata

Analysis of social and behavioral data (experimental and observational) using frequentist and Bayesian approaches using the `R` and `Python` stack. Expertise in statistical learning, choice modeling, longitudinal and survival analysis, network analysis, and spatial statistics. Developer of `R` packages for scientific applications in S3 and S4

Storage:	SQL (MariaDB, PostgreSQL, SQLite), Presto, MongoDB, ElasticSearch, Redis

Experience in database design and ETL using raw SQL and Object Relational Mapping systems like `SQLAlchemy`.

Development:	Amazon AWS, Docker, Kubernetes, Prefect/Airflow

Software development in Agile and Lean teams. Experience in CI/CD environments in AWS, GitLab, and GitHub and with cloud-native and on-premise architectures. Leadership in computational reproducibility and MLOps.

EDUCATION

Ph.D. in Political Science, *New York University*   2013

    Committee: Adam Przeworski (chair), David Stasavage, Leonard Wantchekon

M.A. in Political Science, *New York University*   2009

M.A. in Social Sciences, *Juan March Institute,* Madrid   2005

M.A. in History, *University of Vigo,* Ourense   2004

B.A. in History, *University of Vigo,* Ourense   2002

BOOKS

1. Jungherr, A.; **Rivero, G.** and Gayo-Avello, D. (2020) *Retooling Politics: How Digital Media are Shaping Democracy*. Cambridge University Press.

   Reviews: *International Journal of Press/Politics, Medien & Kommunikationswissenschaft*

2. **Rivero, G.** (2011) *Análisis de datos incompletos en Ciencias Sociales*. CIS, Madrid.

   Reviews: *Metodología de Encuestas*

PEER-REVIEWED ARTICLES

1. Campione, J.R.; Nooney, J.G.; Kirkman, M.S.; Pfaff, E.; Mardon, S.; Benoit, S.R.; McKeever-Bullard, K.; Yang, D.H., **Rivero, G.**; Rolka, D. and Saydah, S. (2023): "Validated Models Using EHRs or Claims Data to Distinguish Diabetes Type among Adults." *Advances in Diabetes & Endocrinology,* 7 (1): 1-8.

2. Billington, C.; **Rivero, G.**; Jannett, A. and Chen, K. (2022): "A Machine Learning Model Helps Process Interviewer Comments in CAPI Instruments: A Case Study." *Field Methods,* 34 (4): 275-287.

3. Gallego, J.; **Rivero, G.** and Martínez-Gordillo, J.D. (2021): "Preventing Rather than Punishing: An Early Warning Model for Corruption in Public Procurement." *International Journal of Forecasting,* 37 (1): 360-377.

4. Suhay, E.; Klasnja, M. and **Rivero, G.** (2021): "Ideology of Affluence: Rich American's Explanations for Inequality and Redistributive Attitudes." *Journal of Politics,* 83 (1): 367-380.

   Awards: *APSA Best Paper Prize 2018. Class and Inequality Section.*

5. Nooney, J.; Kirkman, M. S.; Bullard, K. M.; White, Z.; Meadows, K.; Campione, J.; Mardon, R.; **Rivero, G.**; Benoit, S. R.; Pfaff, E.; Rolka, D. and Saydah, S. (2020): "Identifying Optimal Survey-Based Algorithms to Distinguish Diabetes Type among Adults with Diabetes." *Journal of Clinical and Translational Endocrinology,* 21: 100231.

6. Tourangeau, R.; Sun, H.; Yan, T.; Maitland, A.; **Rivero, G.** and Williams, D. (2018): "Web Surveys by Smartphones and Tablets: Effects on Data Quality." *Social Science Computer Review.* 36 (5): 542-556.

7. Tourangeau, R.; Maitland, A.; **Rivero, G.**; Sun, H.; Williams, D. and Yan, T. (2017): "Web Surveys by Smartphones and Tablets: Effects on Survey Responses." *Public Opinion Quarterly,* 81 (4): 896-929.

8. **Rivero, G.** (2017): "Preaching to the Choir. Ideology and Following Behavior in Social Media." *Contemporary Social Science,* 14 (1): 54-70.

9. Fernández-Vázquez, P.; Barberá, P. and **Rivero, G.** (2015): "Rooting Out Corruption or Rooting For Corruption? The Heterogeneous Electoral Consequences of Scandals." *Political Science Research and Methods*, 4 (2): 379-397

   Media coverage: *Pacific Standard, El País*

10. **Rivero, G.** (2015): "Heterogeneous Preferences in Multidimensional Voting Models: Ideology and Nationalism in Spain." *Electoral Studies,* 40: 136-145.

11. Przeworski, A.; **Rivero, G.** and Xi, T. (2015): "Elections as a Conflict Processing Mechanism." *European Journal of Political Economy*, 39: 235-248.

12. Barberá, P. and **Rivero, G.** (2015): "Understanding the Political Representativeness of Twitter Users," *Social Science Computer Review,* 33 (6): 712-729.

    Media coverage: *The Atlantic*

CHAPTERS IN BOOKS

1. Gayo-Avello, D.; Jungherr, A. and **Rivero, G.** (2023): "Social Media and Electoral Prediction: Ten Years After." In T. Yasseri (ed.): *Handbook of Computational Social Sciences.* Edward Elgar Publishing.

2. Riddles, J.; Burke, J.; **Rivero, G.** and Rust, K. (2017): Adjustments to Student Weights to Account for Student Nonresponse in the National Assessment of Educational Progress. *Proceedings of the Joint Statistical Meetings.* American Statistical Association: 561–570.

3. Barberá, P. and **Rivero, G.** (2012): ¿Un tweet, un voto? Desigualdad en el debate político en Twitter. In R. Cotarelo and I. Crespo (Ed.): *La comunicación política y las nuevas tecnologías.* Ed. Libros de la Catarata: 200–220.

4. Lapuente, V.; Fernández-Vázquez, P. and **Rivero, G.** (2011): Carencias en el control vertical y horizontal de la corrupción. In J. Estefanía (Ed.): *Informe sobre la Democracia en España, 2011.* Fundación Alternativas: 199–222.

REPORTS

1. **Rivero, G.** and Muñoz, J. (2022): La metodologia de les estimacions electorals del CEO. *Papers de Treball del Centre d'Estudis d'Opinió.*

2. Bestvater, S.; Shah, S.; **Rivero, G.** and Smith, A. (2022): Politics on Twitter: One-Third of Tweets From U.S. Adults Are Political. *Pew Research Center.*

   Media coverage: *AP, Washington Post, ABC News, CNN, NBC, The Hill, Washington Times, Tech Crunch, Engadget, Adweek*

3. McClain, C.; Widjaya, R.; **Rivero, G.** and Smith, A. (2021): The Behaviors and Attitudes of U.S. Adults on Twitter. *Pew Research Center.*

   Media coverage: *New York Times, CNN, Fox News, Axios, Politico, The Hill, The Star, Chicago Tribune, Protocol, Adweek, Daily Mail, Fast Company, Mashable*

4. Shah, S.; Widjaya, R.; Smith, A.; **Rivero, G.** and Chapekis, A. (2021): Charting Congress on Social Media in the 2016 and 2020 Elections. *Pew Research Center.*

   Media coverage: *Protocol, Adweek*

5. **Rivero, G.** and Fernández-Vázquez, P. (2011): Las consecuencias electorales de los escándalos de corrupción municipal, 2003–2007. *Estudios de Progreso,* 59.

   Media coverage: *El País, Expansión*

OTHER PUBLICATIONS

1. Remy, E. and **Rivero, G.** (2023): How we review code at Pew Research Center. *Decoded, Pew Research Center.*

2. Guirola, L.M. and **Rivero, G.** (2022): Political polarization contaminates the link with both partisan and independent institutions: Evidence from 138 cabinet shifts. *Documentos de trabajo del Banco de España*, 2237.

3. **Rivero, G.** (2021): Democracia, evaluación y participación: los laboratorios de políticas públicas. *Strategic Metropolitan Plan of Barcelona.*

4. **Rivero, G.** and Chen, J. (2020): Good Coding Practices to Ensure Reproducibility. *Westat Issue Brief Series.*

5. **Rivero, G.** (2011): Integrality and separability in multidimensional voting models: Ideology and nationalism in Spanish regional elections. *Estudios/Working Papers of the CEACS,* 265.

WORKING PAPERS	1. Asensio, O.I.; Lan, T.; Moore, C.; **Rivero, G.**; Simsekler, M.C.E. and Ulibarri, N. (2021): "Data Technologies and Analytics for Policy and Governance: A Landscape Review."
	2. **Rivero, G.**; Tourangeau, R.; Edwards, B. and Cook, T. (2020): "Adaptive Designs in Context: Combining Geographical Information and Paradata."

SOFTWARE	1. `escons`: An R package to estimate seat allocations using electoral surveys (commissioned)
	2. `dshare`: An R package to estimate district shares using electoral surveys (commissioned)

ADDITIONAL TRAINING

Short courses

R and Spark: Tools for Data Science Workflows. *NISS*	Sep. 2017
Statistical Learning and Data Mining. *Trevor Hastie/Rob Tibshirani*	Oct. 2016

Long courses

Quantitative Methods for Social Research. *ICPSR, University of Michigan*	June–Aug. 2005
P.G.C. in Advanced Methods of Applied Statistics, *UNED*	2005
P.G.C. in Celtic Studies, *Universidad Internacional Menéndez Pelayo*	2003
P.G.C. in Management of Cultural Heritage, *Laboratory of Archaeology–CSIC*	2003

RESEARCH AFFILIATIONS

Research fellow (*Doctor miembro*). *Juan March Institute,* Madrid	2013–present
Visiting Scholar. Institute for Economic Analysis, *CSIC*, Barcelona	2010–2011

GRANTS

Technical writer (data science) in responses to grants and other vehicles of procurement (RFI, RFP, RFQ) from local, state, and federal U.S. agencies. *Westat*	2015–2020
Digital Media and Politics, €8,000. University of Konstanz. Andreas Jungherr (PI)	2017
Dictatorial Repression and Judicial Systems. The Determinants of Authoritarian Stability and Transitional Justice, €30,000. Spanish Ministry of Science. Paloma Aguilar (PI)	2012–2015
Technologies of Rebellion and Violence during Civil War, €12,000. Institut Català Internacional per la Pau. With Laia Balcells (PI)	2011
Disentangling the Origins and Consequences of Authoritarian Institutions, €3,612. Juan March Institute. With Abel Escriba (Co-PI)	2010

FELLOWSHIPS & AWARDS

Best Paper Prize. *Class and Inequality Section, APSA*	2018
McCracken Fellowship, *New York University*	2007–2012
Juan March Fellowship, *Juan March Institute*	2003–2007
Research assistant scholarship, *U. de Santiago de Compostela*	June–Sept. 2003
Xunta de Galicia graduate scholarship, *Xunta de Galicia*	2002–2003
Special award to the best academic record, *Universidade de Vigo*	2002
Research assistant scholarship, *Ministry of Education, Spain*	2001–2002

TEACHING EXPERIENCE

Workshops & Summer Schools

"Writing for Survey Researchers" (2 hours). *Universidad Complutense,* Madrid, Spain	Apr. 2023
"Survey Statistics for Public Opinion Research" (4 hours). *40db*	Jan. 2020
"Reproducibility in Quantitative Research" (8 hours). *Westat*	Sept.–Dec. 2019
"Big Data for Social Research"	
Universidad Católica, Montevideo, Uruguay (20 hours)	July 2019
Universidad del Rosario, Bogotá, Colombia (40 hours)	June 2017
"Advanced R" (6 hours). *Westat*	June 2016
"Introduction to Statistical Programming in R" (6 hours). *Westat*	Feb. 2016
"Incomplete Data Analysis in Surveys" (8 hours). *U. Autònoma de Barcelona*	Nov. 2010

New York University

Power & Politics in America (Teaching assistant)	Sprint & Fall 2012
International Politics (Teaching assistant)	Fall 2011
Quantitative Methods for Political Science (Teaching assistant)	Fall 2008 & Spring 2009

INVITED TALKS

Universidad del Rosario (Colombia)	2018
University of Durham, Universidad del Rosario (Colombia)	2017
Trinity College of Dublin	2016
TIGER (Toulouse School of Economics)	2014
Instituto Tecnológico Autónomo de México, Spanish National Research Council	2012
Universitat Autònoma de Barcelona	2011

ORGANIZED CONFERENCES

Contingent Disruption: Digital Media and Politics.   May 2018
   Hosting institution: University of Konstanz, *Konstanz*
   Committee: D. Gayo-Avello, A. Jungherr, and **G. Rivero**

The Organization of Security and Justice System Institutions in Autocracies.   June 2015
   Hosting institution: Juan March Institute - Carlos III, *Madrid*
   Committee: P. Aguilar, A. Escribà-Folch, J.A. Mayoral, J. Ríos Figueroa, and **G. Rivero**

OUTREACH

Mentions and interviews in media

El País. *"Políticos, periodistas y tuitstars: ¿qué grupo está más polarizado?"* Dec. 25, 2020.

El Universal. *"2020: ¿año de la redención de las encuestas en EU?"* Sept. 6, 2020.

El Periódico. *"'Patrullas ciudadanas virtuales': la fina línea entre la colaboración vecinal y la alarma social."* Sept. 4, 2019.

La Voz de Galicia. *"Lo que trasciende de los datos".* Dec. 30, 2016.

El Mundo. *"El voto oculto de Donald Trump".* Oct. 27, 2016.

Univisión. *"Por qué es muy improbable que fallen las encuestas como dice Trump."* Oct. 25, 2016.

Xataka. *"¿Predice el big data sobre redes sociales mejor que las encuestas quiénes ganan las elecciones?"* Dec. 15, 2015.

El País. *"Rajoy y Rubalcaba empatan en la valoración de los usuarios de Twitter".* Sep. 26, 2011.

Writings in media

Washington Post. *"Sanders and Bloomberg want to redistribute wealth. Most millionaires and billionaires don't."*, with Liz Suhay and Marko Klasnja. Feb. 17. 2020

Ahora. *"Cuando PP y PSOE perdieron a los jóvenes"*, with María Ramos. Jul. 8 2016.

El País. *"El éxito de las encuestas"*, with Kiko Llaneras. Mar. 30, 2015.

European Politics and Policy Blog, London School of Economics. *"Political discussions on Twitter during elections are dominated by those with extreme views"*, with Pablo Barberá. Dec. 13, 2014.

CONFERENCES

Political science: APSA (2010, 2011, 2013, 2015, 2017, 2019, 2022), MPSA (2010, 2011, 2015, 2017, 2018, 2022), EPSA (2011, 2012), ECPR (2010), IPSA (2011, 2012), CES (2018), PaCSS (2022)

Statistics and survey methods: GASP (2018, 2019), FedCASIC (2018, 2019), BigSurv (2018), AAPOR (2017, 2018, 2019, 2022), ITSEW (2016), MOLS (2018), JSM (2017), ESRA (2019)

Others: ALICE (2011)

SERVICE & MEMBERSHIP

Editorial service

Associate Editor, *Data & Policy*	2020–2022

Referee

Journals: Public Opinion Quarterly; British Journal of Political Science; Journal of Conflict Resolution; Political Communication; EPJ Data Science; Social Science Computer Review; International Journal of Press/Politics; International Journal of Public Opinion Research; Government and Opposition; European Political Science Review; Communication Research; Congress & the Presidency; Journal of Survey Statistics and Methodology; Data & Policy; Armed Forces and Society; War in History; Dados; Spanish Journal of Political Science; Southern European Politics and Society; El Profesional de la Información; Revista Internacional de Sociología

Book publishers: Cambridge University Press

Funding organizations: Spanish National Agency for Evaluation and Prospective, Institute of Education Sciences

Service in organizations

Data for Policy Conference Area Committee (Data Technologies & Analytics)	2021–2022
Washington Statistical Society Board of Directors	2018–2020
AAPOR Communications Committee	2019–2020

Mentorship

Shane Campbell (Washington Statistical Society, 2017–2018)
Ruodan Zhang (Midwest Political Science Association, 2017–2018)

Professional memberships

American Political Science Association (Political Methodology Section), American Statistical Association (Statistical Learning and Data Science Section), American Association for Public Opinion Research

Service in expert panels or as advisor

Bureau of Justice Statistics, *Department of Justice, U.S.*	2018
MA in Computational Social Sciences, *Universidad Carlos III, Spain*	2021
Centre d'Estudis d'Opinió, *Generalitat de Catalunya, Spain*	2022
National Office of Foresight and Strategy, *Ministerio de la Presidencia, Spain*	2022

MISCELLANEA

Politikon. Co-editor.	2015–2020
Tuitómetro. Tracking of the 2011 Spanish General Elections on Twitter, with Pablo Barberá	2011
Media coverage: *El País*	