Joao Alipio-Correa

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Research Interests

I am interested on methods for causal inference in settings where standard identification assumptions break down. I pursue approaches that relax these assumptions to expand the scope of causal inference beyond conventional estimators. My broad interests include nonparametric theory, sensitivity analysis, and design-based strategies in observational studies.

Education

University of Pittsburgh — Pittsburgh, PA
M.S. in Statistics — *2025 – present*
Ph.D. in Political Science — *2023 – present*

Federal University of Latin American Integration — Brazil
M.A. in Political Science — *2021 – 2023*

Working Papers

Synthetic Control Under Interference: Detecting and Correcting Bias

Develops a diagnostic and three correction estimators for Synthetic Control under proximity-structured interference. Provides a formal bias decomposition, defines exposure-weighted mass as the bias parameter, and proposes exposure-penalized fitting geometries identified entirely from the pre-treatment period. Establishes finite-sample diagnostics and design-based correction procedures compatible with Fisherian inference.

A Sensitivity Analysis Framework for Consistency Violations under Interference

Formulates a general sensitivity framework for violations of the consistency component of SUTVA. Defines interference as bounded perturbations to the potential outcome mapping and derives sharp bias bounds as functions of the estimator's weighting structure. Extends design-based robustness analysis to interference settings without assuming a known network or exposure model.

Beyond Placebos: Constructing Synthetic Interventions for Causal Inference

Reinterprets Synthetic Control as a general operator that constructs counterfactual trajectories for arbitrary interventions rather than placebo units. Establishes identification conditions for intervention-level estimands and formulates a linear operator representation linking donor-space geometry to causal estimands.

Navigating the Divide: How Unattached Voters Respond to Politically Sponsored Protests in Polarized Contexts (with Laura Chelidonopoulos)

Implements a nationally representative adaptive survey design combining elite interviews and population follow-ups to evaluate politically sponsored protests as quasi-interventions. Maps elite expectations, treatment exposure, and behavioral responses within a single framework of causal evaluation. Treats elite mobilization as a designed treatment with measurable downstream behavioral effects.

Can the Resource Curse be Avoided? Assessing the Impact of a Major Oil Field Discovery on Political Participation (with Laura Chelidonopoulos)

Uses a large exogenous oil discovery to study how resource shocks reshape political participation in new democracies. Conceptualizes discovery as a treatment event that induces exogenous shifts in local political incentives. Provides a design-based framework for evaluating the political effects of natural resource endowments.

Conference Presentations

Synthetic Control Under Interference: Detecting and Correcting Bias

American Causal Inference Conference (submitted) 2026
Annual Latin American Meeting of the Society for Political Methodology (LAPolMeth) 2025
Conference on Digital Experimentation - CODE @MIT 2025
NYU Workshop: Data Science Frontiers 2025
Annual Meeting of the Society for Political Methodology (PolMeth) 2025
Annual Canadian Meeting of the Society for Political Methodology (MapleMeth) 2025
Annual Meeting of the Midwest Political Science Association (MPSA) 2025

Navigating the Divide: How Unattached Voters Respond to Politically Sponsored Protests in Polarized Contexts

Annual Latin American Meeting of the Society for Political Methodology (LAPolMeth) 2024
Annual Latin American Meeting of the Society for Political Methodology (LAPolMeth) 2023

Scholarships and Grants

Arts & Sciences Travel Award, University of Pittsburgh 2025
Summer Travel Grant, University of Pittsburgh 2025
Summer Research Grant, University of Pittsburgh 2024
Scholarship for Excellence in Political Science Research, ICPSR 2024
Summer Research Fellowship, University of Pittsburgh 2024
Arts & Sciences Fellowship, University of Pittsburgh 2023

Teaching Experience

University of Pittsburgh

Head TA, Research Methods in Political Science Spring 2025
Teaching Fellow, Political Attitudes and Experiments Fall 2024
Teaching Fellow, Introduction to Quantitative Political Analysis Summer 2024

Academic Service

Founder and Organizer, **Causal Inference for Social Sciences Undergraduates** 2024 –
Co-founder and Organizer, **Pitt Politics Graduate Student Workshop** 2024

Skills

Languages: Portuguese (native), English (fluent).

Programming: R, LaTeX, Python, C++.

Hobbies: Long-distance triathlon.