

Computational Social Sciences



Our research group applies cutting-edge computational methods to decipher the complexity of human and social behavior and explore how policies shape it. Through an interdisciplinary approach, we integrate big data, simulations, and theoretical models to address fundamental questions across six key research areas:

Complexity Science: Develops computational methods, including NLP, to study belief updates, emotional decay on social media, polarization, LLM psychometrics, and semantic embeddings.

Social Ecology: Investigates how Digital Relational Values (DRVs) related to nature emerge online by analyzing social media interactions across platforms, landscapes, and languages, with a focus on environmental stewardship and the loss of direct nature experiences.

Digital Media, Communication, and Political Behavior: Examines online news consumption, the influence of digital media on attitudes and political behavior, and patterns of political communication, with an emphasis on cross-cutting exposure and opinion formation.

Science of Science: Explores global inequalities in knowledge production, bibliometric analysis, and research assessment, with a focus on fertility and family dynamics in the global South and among immigrant populations.

Welfare and Equity: Analyzes the impact of education, labor, and social protection policies on life trajectories and investigates how improved information systems, leveraging administrative data, can enhance policy effectiveness.

Together, these research areas advance the understanding of social systems through a data-driven,

quantitative approach, providing new tools for decision-making and the design of more effective and equitable public policies.

Objectives

- Develop computational methods for studying belief updates, emotional decay, and polarization.
- Analyze Digital Relational Values (DRVs) related to nature on social media.
- Examine digital media's influence on political behavior and communication.
- Explore global inequalities in knowledge production and research assessment.
- Investigate policy impacts on life trajectories and enhance policy effectiveness with data.

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