MIT Economics

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DOCTORAL STUDIES

Massachusetts Institute of Technology (MIT)
PhD, Economics, expected completion June 2025
DISSERTATION: "Essays in Political Economy"

DISSERTATION COMMITTEE AND REFERENCES

Professor Alexander Wolitzky
MIT Department of Economics
77 Massachusetts Avenue, E52-518
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Professor Benjamin Olken
MIT Department of Economics
77 Massachusetts Avenue, E52-542
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Professor Stephen Morris
MIT Department of Economics
77 Massachusetts Avenue, E52-422
Cambridge, MA 02139
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PRIOR EDUCATION

Princeton University 2015–2019
B.A., Economics
Summa cum laude, Phi Beta Kappa

GENDER Male

CITIZENSHIP Uruguay, USA

LANGUAGES Spanish (native), English (native), French (fluent)

FIELDS
Primary: Political economy
Secondary: Economic theory, natural language processing

TEACHING EXPERIENCE

14.770 Graduate Political Economy I — Fall 2023
Teaching Assistant to Profs. Abhijit Banerjee and Alexander Wolitzky

14.20 Undergraduate Industrial Organization — Fall 2023
Teaching Assistant to Prof. Nancy Rose

14.126 Graduate Game Theory — Spring 2022
Teaching Assistant to Profs. Muhamet Yildiz and Alexander Wolitzky

14.75 Undergraduate Political Economy — Spring 2022
Teaching Assistant to Profs. Abhijit Banerjee and Benjamin Olken

14.770 Graduate Political Economy I — Fall 2021
Teaching Assistant for Profs. Abhijit Banerjee and Benjamin Olken

RELEVANT POSITIONS

Research Assistant to Prof. Alexander Wolitzky — Summer 2020–Fall 2020

FELLOWSHIPS, HONORS, AND AWARDS

National Science Foundation Graduate Research Fellowship — 2019–2024

Finalist for Best Student-Track Submission, AAAI Conference on Artificial Intelligence — 2019

Princeton University Halbert White '72 Prize in Economics (Top Economics Undergraduate) — 2019

Princeton University Wolf Balleisen Memorial Prize (Best Economics Undergraduate Thesis) — 2019

Princeton University Department of Economics Junior First Prize — 2018

Princeton University Shapiro Prize for Academic Excellence — 2017

PROFESSIONAL ACTIVITIES

Presentations
AAAI Conference on Artificial Intelligence (2019)

Refereeing
PNAS

Service
MIT Economics Behavioral Lunch organizer, 2022-2023

PUBLICATIONS

"Persuasion with Ambiguous Receiver Preferences"
Economic Theory, vol. 77, pp. 1173–1218 (August 2023); link to published version.
I describe a Bayesian persuasion problem where Receiver has a private type representing a cutoff for choosing Sender's preferred action, and Sender has maxmin preferences over all Receiver type distributions with known mean and bounds. This problem can be represented as a zero-sum game where Sender chooses a distribution of posterior mean beliefs that is a mean-preserving contraction of the prior over states, and an adversarial Nature chooses a Receiver type distribution with the known mean; the player with the higher realization from their chosen distribution wins. I formalize the connection between maxmin persuasion and similar games used to model political spending, all-pay auctions, and competitive persuasion. In both a standard binary-state setting and a new continuous-state setting, Sender optimally linearizes the prior distribution over states to create a distribution of posterior means that is uniform on a known interval with an atom at the lower bound of its support.

PUBLICATIONS (CONT.)

"Examining Political Trustworthiness Through Text-Based Measures of Ideology"
Proceedings of the 33rd AAAI Conference on Artificial Intelligence, vol. 33, no. 1, pp. 10029–10030 (January 2019); link to published version.
This work shows the value of word-level statistical data from the US Congressional Record for studying the ideological positions and dynamic behavior of senators. Using classification techniques from machine learning, we predict senators' party with near-perfect accuracy. We also develop text-based ideology scores to embed a politician's ideological position in a one-dimensional policy space. Using these scores, we find that speech that diverges from voting positions may result in higher vote totals. To explain this behavior, we show that politicians use speech to move closer to their party's average position. These results not only provide empirical support for political economy models of commitment, but also add to the growing literature of machine-learning-based text analysis in social science contexts.

RESEARCH PAPERS

"Strategic Opinion-Writing on Appellate Courts" (Job Market Paper)
November 2024; link to most recent version.
Ruling on thousands of cases each year, U.S. federal courts of appeals make some of the most impactful decisions in modern society. Using quasi-random three-judge panels on these courts from 1970–2013, I study the effect of partisanship on consensus among judges. While bipartisan panels cause a roughly 25% increase in dissenting opinions over party-unanimous panels, I document a novel pattern in dissenter identity: the most politically extreme judge is no more likely to dissent than their colleagues. This result is incompatible with classical models of judicial politics and is unique to partisanship; other judge characteristics produce smaller increases in dissents which are more concentrated on outlier judges. To explain my results, I introduce a theoretical framework where favored coalitions contain the most similar judges along both partisan and non-partisan dimensions. Using judge metadata, I find suggestive evidence for the model's result that partisanship increases disagreements by judges of panel-minority law school or gender. With state-of-the-art machine learning tools from natural language processing, I generalize beyond dissents, showing that those same features drive differences in opinion text while partisanship has minimal effects. My findings show that partisanship has a powerful and complex effect on consensus-building and illustrate the need for new tools to capture the subtle effects of disagreement in this opaque yet high-stakes environment.

"Partisan Opinions, but Common Language: Similarities in Topic Use by Appellate Judges"
August 2024; draft available upon request.
Understanding partisan behavior by highly influential judges is critical for the rule of law. However, judicial language is technical, making partisanship challenging to objectively measure and creating a unique opportunity for natural language processing. Using fine-tuned language embeddings from transformer models, we leverage the random assignment of individual judges to three-judge panels on, and of those panels to cases, to causally estimate how discussion of legal topics on U.S. appellate courts differs across partisan environments. We show that while Democratic judges write more dispersed opinions, judges of both parties agree on average about the important topics in each legal case. Further, we demonstrate that mandatory bipartisanship does not

RESEARCH PAPERS (CONT.)

reduce the range of topics considered. Judicial partisanship is thus driven by disagreements within legal issues rather than disputes about which issues apply. These results provide a clearer understanding of the structure of judicial language and open new directions for natural language processing research and impact.

"Discovery through Trial Balloons"
November 2022, available on arXiv.
A principal and an agent face symmetric uncertainty about the value of two correlated projects for the agent. The principal chooses which project values to publicly discover and makes a proposal to the agent, who accepts if and only if the expected sum of values is positive. We characterize optimal discovery for various principal preferences: maximizing the probability of the grand bundle, of having at least one project approved, and of a weighted combination of projects. Our results highlight the usefulness of trial balloons: projects which are ex-ante disfavored but have higher variance than a more favored alternative. Discovering disfavored projects may be optimal even when their variance is lower than that of the alternative, so long as their disfavorability is neither too large nor too small. These conclusions rationalize the inclusion of controversial policies in omnibus bills and the presence of moonshot projects in organizations.