Zayne Sember, Ph.D.

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Data and computational social scientist with expertise in large-scale data collection and analysis, natural language processing, and research design. Experience managing research and data pipelines, leading teams, and building reproducible analytics tools. Strong communicator capable of translating complex quantitative findings for technical and non-technical stakeholders.

EXPERIENCE

MIT Election Data + Science Lab – *Research Director* | Cambridge, MA | Sep 2025 – Present
- Lead data collection for and research into election administration, including the Precinct Project and Elections Performance Index, by defining project scope, managing reproducible R and Python workflows, and designing QA systems.
- Direct a team of undergraduates, Ph.D. students, and research staff while collaborating with academics, election officials, and vendors to deliver actionable insights to aid election administration.

University of California, San Diego – *Research & Teaching Assistant, Tutor* | San Diego, CA | 2020 – 2025
- Analyzed large social media and legislative datasets, used authorship attribution analysis on historical documents.
- Taught labs and bootcamps on R, SPSS, and quantitative methods, tutored faculty in MLE and R.

Science Demands Action – *Vice President & Board Member* | Buffalo, NY | 2017 – 2020
- Directed data collection and outreach strategy for science-advocacy nonprofit.
- Managed a distributed volunteer network to coordinate event planning and programming

Internships – Senator Charles Schumer, 2019 | Erin Cole for Congress, 2018 | Lieutenant Governor Kathy Hochul, 2017

SKILLS

Software: R (base + tidy), Python, STATA, SQL, Git, C++
Methods: GLMs, survey experiments, observational causal inference, topic modeling, text embeddings, LLMs
Data Visualization: ggplot2, Plotly, Shiny, matplotlib, seaborn

EDUCATION

University of California, San Diego
Ph.D. Political Science with a Specialization in Computational Social Science, 2025
- Dissertation: *Timely Talk: Responsive Legislator Communication* – Analyzes congressional communication responsiveness with NLP and time-series methods.

M.A. Political Science, 2022

University at Buffalo, State University of New York
B.S. Computational Physics, *Summa Cum Laude*, 2020
B.A. Political Science (American Politics Concentration), *Summa Cum Laude*, 2020

SELECTED PROJECTS

- *Nonpartisan Elections and Affective Polarization* (working paper w/ Jen Gaudette) – Studying polarization with a national survey and built a dataset of nonpartisan municipalities.
- *Nationalized Responsiveness: Legislator Communication During the COVID-19 Pandemic* – Large-scale social media text data with pandemic statistics to study communication shifts over time.
- **speccurvieR** – R package for specification curve and model sensitivity analysis (available on CRAN)
- **plotness** –R package for Poisson and binomial regression diagnostics