

## SUMMARY

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Data scientist specializing in experimental design, survey analytics, and NLP to evaluate interventions and analyze user behavioral data. Skilled in causal inference and statistical modeling with a proven record of translating complex data into actionable insights through dashboards and stakeholder reports.

## WORK EXPERIENCE

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### Better Government Lab, Georgetown University

Sep 2024 – Present

#### Data Scientist

- **Behavioral Intervention Evaluation:** Evaluated a reminder message campaign in collaboration with a civic tech nonprofit to improve GetCalFresh application completion. Used pre-post analysis with matching and A/B testing to identify a 4% increase in submission rates and supported recommendations for scaled deployment.
- **Survey Analytics:** Delivered survey design and analysis for NY state agencies and a civic tech nonprofit to identify service gaps in WIC benefit redemption. Applied stratified sampling and calibration weights to produce and present representative findings that informed outreach and vendor access strategies [Presentation].
- **Experimental Design:** Designed an offline survey experiment to evaluate how LLM-generated chatbot suggestions influence caseworker decision-making in SNAP application scenarios. Conducted simulation-based power analyses tailored to evolving engineering requirements and research objectives [Code, Post].
- **User Journey Analysis:** Applied LLMs to classify Reddit posts and open-ended survey responses by user stage and emotional tone. Designed prompting and validation workflows to surface drop-off points and user friction in benefit journeys.
- **LLM Evaluation:** Developed benchmark datasets and structured prompts to assess LLM accuracy and reasoning in SNAP policy scenarios. Built an automated evaluation pipeline using promptfoo to test model consistency, correctness, and robustness across prompt types.
- **Dashboarding:** Built an interactive R Shiny dashboard for government partners to visualize SNAP quality control error patterns. Incorporated stakeholder feedback through usability testing and delivered a tool to support ongoing quality assurance and caseworker training [Dashboard].

### University of Washington

Sep 2020 – Aug 2024

#### Doctoral Researcher

- **Data Wrangling and Record Linkage:** Built a data processing pipeline using R and PostgreSQL to group individuals across 10M administrative records into likely households. Supported state government partners in developing household-level poverty metrics for targeted service delivery [Post].
- **Machine Learning and NLP:** Conducted sentiment analysis of AI-related news headlines using a fine-tuned RoBERTa model in PyTorch. Used BERTopic and structural topic modeling to identify public perceptions of AI and shared results through public-facing reports and visualizations [Post, Visualization].

## EDUCATION

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### University of Washington

Aug 2024

Ph.D. in Political Science

Graduate Certificates in Data Science, Psychometrics & Applied Analytics, Computational Social Science

### Columbia University

May 2017

M.A. in Political Science

## SKILLS

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Causal inference (experimental design, quasi-experimental methods), statistical modeling (GLMs, multilevel models), survey analytics (sampling, weighting), machine learning (scikit-learn, PyTorch, transformers), NLP (LLMs, prompt engineering), data visualization (R Shiny, ggplot2), data engineering (SQL, dbt)