

Aycan Gamache

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SUMMARY

Computational social science PhD with 9 years of expertise in applying statistical and econometric skills to conduct robust research on public opinion and international economics. Proficient in quantitative analysis and skilled in handling experimental data, with a track record of providing valuable insights as a statistical consultant.

SKILLS

- **Programming Languages:** SQL, Python, R, STATA
- **Techniques/Skills:** linear and non-linear regressions, hierarchical modeling, data cleaning, machine learning, text analysis, causal inference, hypothesis testing
- **Languages:** Turkish, English, French

WORK EXPERIENCE

Researcher and Supervisor, Carnegie Mellon University, PA 2022-2023

- Managed and mentored two undergraduate researchers by conducting weekly check-ins and trainings on data collection and analysis.
- Led a team of five research assistants in designing a survey instrument focused on economic policy responses to COVID-19, contributing to a collaborative research project spanning multiple universities.

Researcher, Princeton University, NJ 2021-2022

- Designed and executed two solo and two collaborative research projects from end to end; analyzed experimental and observational data in R and Python; developed predictive and causal inference models to assess public sentiments.
- Delivered six research talks at conferences to 100+ researchers, policymakers and non-technical audiences.

Doctoral Researcher and Instructor, University of Virginia, VA 2014-2021

- Presented research findings up to 50 participants in various settings: departmental seminars, national conferences, and university board meetings; raised over \$30,000 from the university and non-profit organizations by writing grant proposals.
- Created and delivered lectures on political economy twice a week to 40+ students; communicated complex ideas clearly to students with non-technical backgrounds; managed and led group discussions.

Statistical Consultant, University of Virginia, VA 2018-2019

- Provided weekly data science consultations, assisting individuals with Python and R for applied statistics and scientific computing.
- Instructed a workshop on UNIX for 20 people; wrote a blog on missing data imputation in RMarkdown.

RESEARCH EXPERIENCE

- Employed instrumental variable analysis to estimate the impact of trade flows on trade-related advertising campaigns, analyzing over 10 million ads across designated media markets; utilized OpenAI's Whisper API in Python for ad video transcription, followed by text classification techniques to identify anti-trade ads; implemented spatial regression discontinuity design in R to assess the impact of these ads on trade sentiment.
- Conducted an analysis using matching techniques and an instrumental variable strategy, revealing a 10 percentage point decrease in anti-China sentiments due to increased exposure to news on job-creating Chinese investment projects; assembled a dataset encompassing investment project details, financial and political-economic variables; developed a Python Selenium script for efficient scraping of online newspaper articles.

LEADERSHIP EXPERIENCE

Game Recommendation System, Erdos Institute Data Science Bootcamp 2023

- Collaborated with two astrophysics and math PhDs to scrape data on the gaming habits of 8,700 users through SteamAPI; developed a recommender system utilizing matrix factorization to recommend new games based on past user gaming habits using Python; placed in the top 5 out of 37 teams.

Sustainable Investor AI, Carnegie Mellon University, PA August 2023

- Secured \$20,000 in funding by leading a team of four, including an engineer, developer, and product manager, achieving first place among five competing teams at the Generative AI Hackathon; developed a Python-based retrieval augmented generation tool for extracting key insights from financial and sustainability reports, enhancing sustainable investment decision-making with a user-friendly website using Streamlit; prototype in development.

EDUCATION

University of Virginia (Charlottesville, VA)	PhD International Political Economy	August 2021
Bogazici University (Istanbul, TURKEY)	BA Business Administration	June 2012
	BA Political Science and International Relations	June 2012