NATALIE AYERS

LinkedIn | GitHub

RESEARCH INTERESTS

Use of data analytics, computation, modeling, and machine learning for conflict, security, and foreign policy applications, including developing and evaluating methods for societal stability post-conflict and investigating conflict intervention efficacy and improvements.

EDUCATION

Harvard University, Cambridge, MA   Expected May 2027
    PhD in Government
    Relevant Coursework: Deep Learning (Economics), Spatial Models of Social Science
Harris School of Public Policy, University of Chicago, Chicago, IL
MS in Computational Analysis and Public Policy, with Honors   June 2022
    Siebel Scholar, Class of 2022: awarded annually for academic excellence and demonstrated leadership to over 90 top students from the world's leading graduate schools
    Pearson Certificate in Global Conflict Studies
    Relevant Coursework: Large-Scale Computing, Machine Learning, NLP, Quantitative Security, Computer Science with Applications I & II
Kenyon College, Gambier, OH
BA in Classics, *summa cum laude*; Minor in Statistics   May 2017
College Year in Athens, Study Abroad Program, Athens, Greece   January 2016 – May 2016

RESEARCH

WORKING PAPERS
- "External Support and Persistent Authoritarianism in the Middle East." With Daniel Baissa and Melani Cammett.
- "Statistical Intuition Without Coding (or Teachers)." With Gary King, Zagreb Mukerjee, and Dominic Skinnion.
- "Diversionary Proxy War: Opposition Protest and Russian Escalation in Eastern Ukraine." With Christopher Blair and Austin L. Wright.
- "Duplicates in Media-Generated Event Data." With Yuri M. Zhukov.
- "Computational Approaches to the Study of Ancient Greek Conflict."

DATASETS
- "VIINA 2.0: Violent Incident Information from News Articles on the 2022 Russian Invasion of Ukraine." With Yuri M. Zhukov. https://github.com/zhukovyuri/VIINA

DIGITAL PUBLICATIONS
- Cook County Gunshot Homicide and Opioid Deaths: Cook County Gunshot Homicide and Opioid Deaths
- Mapping Ancient Texts: MappingAncientTexts

PROFESSIONAL EXPERIENCE

Harvard TH Chan School of Public Health   Jan 2024 – Present
Data Science Research Assistant   Cambridge, MA
- Develop pilot digitization application for Guyana Ministry of Health malaria records. Built as a Python optical character recognition model accessible via a web application

Crisis Ready   March 2023 – Present
Data Science Intern   Cambridge, MA

- Contribute to production of and enhancements for [ReadyMapper](#), an interactive tool providing mobility, vulnerability, and health infrastructure data for active crisis situations. Built in Vue, using Python for backend data processing
- Co-lead design and development of [Climateverse](#), a South Asian climate-related data warehousing project for use by researchers and policy-makers combatting climate challenges

Center for Effective Global Action, University of California, Berkeley   June 2021 – September 2021
Data Science for Development Intern   Berkeley, CA

- Developed [learning modules](#) for novel geographic datasets, primarily remote sensing data, and advanced data techniques as part of CEGA's Geo4Dev initiative to lower their barriers to use for researchers and policy makers

Keyrus USA   August 2017 – September 2020
Senior Consultant (previously *Data Technology Consultant, Data Technology Analyst)*   New York, NY

- Headed reporting data ecosystem for Customer Success department of 9,000+, international financial services company
- Provided full-service business intelligence support to multiple clients including requirements discovery, solution design, solution implementation, user testing, production deployment, and maintenance
- Conducted multi-day client trainings for groups of up to 50 in BI technologies; mentored 9 junior colleagues in these technologies

Kenyon College   August 2016 – December 2016
Introductory Statistics Grader   Gambier, OH

- Graded all assignments for Professor of Mathematics and Statistics Brad Hartlaub's Introductory Statistics course

RESEARCH AND TEACHING EXPERIENCE

Political Violence Research Workshop, Harvard University   August 2023 - Present
Student Coordinator   Cambridge, MA

- Plan and organize speakers, attendees, food, and other logistics for bi-weekly meeting of the Political Violence Research Workshop at Harvard University, with faculty coordinators Erica Chenoweth and Zoe Marks

Institute for Quantitative Social Science, Harvard University   June 2022 - Present
Research Assistant   Cambridge, MA
- Co-develop [2k1-in-Silico](#), a R Shiny dashboard used to teach statistical distributions and concepts, for Dr. Gary King

University of Chicago   September 2021 – July 2022
Teaching Assistant   Chicago, IL

- Led teaching sessions, led office hours, and graded student assignments for Computing for the Social Sciences, an R-language course taught by Dr. Benjamin Soltoff
- Led teaching sessions, assisted with student questions, and graded course material for Harris School of Public Policy's Program Evaluation course taught by Jeffrey Grogger
- Assisted with student questions and graded course material for Harris Introduction to Machine Learning course taught by Guillaume Pouliot

University of Chicago   December 2021 – March 2022
Research Assistant   Chicago, IL
- Developed record linkage processes in Python for novel data to support Dr. Oeindrila Dube's research into Pakistani elections

Cook County Medical Examiner's Office   January 2021 – July 2021
Research Intern   Chicago, IL

- Perform spatial and statistical analysis on Cook County gunshot homicides and opioid deaths; create [interactive visualizations](#) and [presentation](#) of main findings

Kenyon College   January 2015 – May 2017
Digital Classics Research Assistant   Gambier, OH

- Assisted in research of Dr. Micah Myers to visualize travel in ancient texts for publication on [Mapping Ancient Texts](#)
- Responsible for data creation, data input, data management, and CARTO mapping for 8 travel narratives of 57 unique locations associated with a specific city of interest

Kenyon College   August 2016 – May 2017
Introductory Greek Assistant Teacher   Gambier, OH

- Developed and executed weekly, 1-hour classes for the Introductory Ancient Greek class to review and clarify material
- Tutored students outside of weekly session

SKILLS AND COMPETENCIES

- Python, SQL, R, ArcGIS Pro, Git, Alteryx, Tableau, AWS, Stata, Snowflake, Powershell, Bash, Tidal, Alation, Microsoft Office Suite, JIRA, SSIS, CARTO, Oracle, Vertica, Microsoft SQL Server, Hive, and MongoDB
- Knowledge of data analysis, machine learning, natural language processing, GIS, satellite imagery and remote sensing, deep learning, web scraping, data warehousing, data visualization, data cleansing, ETL design and deployment, statistical methods, research, business intelligence, project management, client relations, training, presentation

HONORS AND AWARDS

Weatherhead Center Research Cluster on Identity Politics Graduate Fellow   September 2023 – Present

- Selected as graduate fellow with funding as part of Identity Politics research cluster dedicated to understanding and addressing ethnic and religious conflict

Siebel Scholar, Class of 2022   September 2021

- Awarded annually for academic excellence and demonstrated leadership to over 90 top students from the world's leading graduate schools

Phi Beta Kappa   May 2017
George L. Brain Prize in Classics   April 2017

- Awarded annually to one graduating senior for top performance in Classics

Carl Diehl Prize in Classics   April 2015

- Awarded annually to one student for top performance in Introductory Ancient Greek

Kenyon College Merit List   December 2013 – May 2017

- Named to Merit List each semester at Kenyon College

CONFERENCES

PAPER PRESENTATIONS
Ayers, Yadav et al. Feb 2024. "The state of data for climate impact ascertainment and adaptation." Presented at the Organizations and Environmental Sustainability Conference at Stanford University, CA.

Yadav, Ayers, et al. Feb 2024. "Climateverse: An LLM-enabled, searchable, open data repository of curated datasets for climate adaptation." Presented virtually at the Climate Change and Health Research Coordinating Center's Climate and Health Conference, jointly sponsored by the Harvard T.H. Chan School of Public Health and the Boston University School of Public Health.

Natalie Ayers, Chris Blair, and Austin Wright. Oct 2023. "Diversionary Proxy War: Opposition Protest and Russian Escalation in Eastern Ukraine." Presented at the Empirical Study of Conflict Project's 2023 Annual Meeting at the Princeton School of Public and International Affairs, DC.

Natalie Ayers, Chris Blair, and Austin Wright. Sept 2023. "Diversionary Proxy War: Opposition Protest and Russian Escalation in Eastern Ukraine." Presented at the Conflict Research Society 60th Anniversary Conference at King's College London, UK.

PANELS

Moderator. March 2024. "Data Science for Humanitarian Work in Conflict Zones." Panelists Dr. Erica Nelson, Daphne Joseph, and Rana Hussein. Part of the Women in Data Science Cambridge event in Cambridge, MA.

POSTER PRESENTATIONS

Natalie Ayers. July 2023. *Computational Approaches to the Study of Ancient Greek Conflict.* Presented at the Political Methodology Conference 2023 at Stanford University, CA.

Natalie Ayers, Lorenzo Gitto, and Ponni Arunkumar. Oct 2022. *Cook County Gunshot and Opioid Death Historical Analysis*. Presented at the National Association of Medical Examiners 2022 Annual Conference in Dallas, TX.

Sam Fishman and Natalie Ayers. Oct 2021. *Open Resources and Data for Geospatial Analysis of Development Programs*. Presented virtually at Evidence for Development: What Works Global Summit 2021.

Natalie Ayers. May 2017. *Modeling HIV-1 Persistence and Treatment*. Presented at Kenyon College, Gambier, OH.

VOLUNTEER WORK AND EXTRA-CURRICULAR ACTIVITIES

Harvard Government Department Graduate Student Association   September 2023 – Present
Rules and Elections Official   Cambridge, MA

- Ensure compliance with GSA constitution; implement annual elections for GSA positions.

Institute of Politics, University of Chicago   March 2021 – June 2022
Graduate Chair on Student Advisory Board; Fellows Ambassador   Chicago, IL

- Foster graduate student engagement with the IOP; shape IOP programming and offerings to meet graduate needs
- Helped lead and plan weekly, virtual seminars and office hours as a member of IOP Fellow Sally Yates' team

Project on Political Reform   October 2020 – June 2022
*Co-Chair (*previously *Secretary)*   Chicago, IL

- Plan and execute university events promoting political reform and fostering communication among divergent groups
- Co-produce Project on Political Reform podcast exploring connections between politics and development
- Record and organize minutes for board meetings

LANGUAGES

- English, French (Intermediate)