**NATALIE AYERS**

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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, MAExpected May 2027

PhD in Government

*Relevant Coursework: Deep Learning (Economics), Bayesian Statistics, 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, Databases for Public Policy, Quantitative Security, Program Evaluation, Computer Science with Applications I & II, Microeconomics 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, GreeceJanuary 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).”](https://gking.harvard.edu/2k1) 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.
* “Post-ISIS Agricultural Resilience in Iraq.” With Laura Saavedra-Lux, Blair Welsh, and Nihad Aboud.
* “Computational Approaches to the Study of Ancient Greek Conflict.”
* “Optimal Subsetting for Text Data.” With António Câmara and Naijia Liu.

**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](https://public.tableau.com/app/profile/natalie.ayers/viz/CookCountyGunshotHomicideandOpioidDeaths/GunandOpioidDeaths)
* Mapping Ancient Texts: [MappingAncientTexts](http://mappingancienttexts.net/)

**PROFESSIONAL EXPERIENCE**

**United Nations University – WIDER and World Bank** June 2024 - Present

*Consultant* Helsinki, Finland and Maputo, Mozambique

* Perform data analytics and writing to support WB and UNU-WIDER *Breaking cycles of fragility* project, subproject *Assessing the costs of conflict*, which studies conflict’s impact on development outcomes and violence in Mozambique

**Crisis Ready** March 2023 – Present

*Data Science Intern* Cambridge, MA

* Contribute to production of and enhancements for [ReadyMapper](https://www.crisisready.io/optimizing-health-response-during-wild-fires-with-real-time-integrated-data/), 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](https://climateverse.net/), a South Asian climate-related data warehousing project for use by researchers and policy-makers combatting climate challenges

**Harvard TH Chan School of Public Health** Jan 2024 – September 2024

*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

**Center for Effective Global Action, University of California, Berkeley** June 2021 – September 2021

*Data Science for Development Intern* Berkeley, CA

* Developed [learning modules](https://www.geo4.dev/training) for novel geographic datasets 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

**Department of Government, Harvard University** August 2024 – December 2024

*Teaching Fellow*  Cambridge, MA

* Lead teaching sections, hold office hours, and grade student assignments for Gov 1008: Introduction to Geographic Information Systems, taught by Kanglin Chen

**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](https://2k1.iq.harvard.edu/), 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](https://public.tableau.com/app/profile/natalie.ayers/viz/CookCountyGunshotHomicideandOpioidDeaths/GunandOpioidDeaths) and [presentation](https://docs.google.com/presentation/d/1JXStVIMPvAQqFZ4vyH7usPRTkJY5SRcf/edit?usp=sharing&ouid=107183962735043238607&rtpof=true&sd=true) 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](http://mappingancienttexts.net/)
* 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** August2016 – 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, 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 – June 2025

* Selected two consecutive years as a graduate fellow of the 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

Distinction on Classics Senior Capstone May 2017

* Awarded for high performance on the Capstone Research Paper, Sight Examination and Seminar

CONFERENCES

**PAPER PRESENTATIONS**

**Ayers, Natalie, Akash 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, Akash, Natalie 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.*](https://github.com/natalie-ayers/ancient-greek-conflict/blob/main/PolMeth2023-Poster.pdf)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*](https://github.com/natalie-ayers/Cook-County-Gunshot-Homicide-and-Opioid-Deaths/blob/master/name2022-poster.pdf). 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*](https://youtu.be/nlg7B37rnkg)*.* Presented virtually at Evidence for Development: What Works Global Summit 2021.

**Natalie Ayers.** May 2017. [*Modeling HIV-1 Persistence and Treatment*](file:///C:\Users\natra\Documents\Careers\Generic%20Application%20Materials\Modeling-HIV1-Persistence-and-Treatment.pdf). Presented at Kenyon College, Gambier, OH.

VOLUNTEER WORK AND EXTRA-CURRICULAR ACTIVITIES

**Harvard Government Department Graduate Student Association** September 2023 – June 2024

*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](https://open.spotify.com/episode/5bfJDncvSLeqMJqhIqKrue?si=hLdHqOuWRwK3reMLKMsi6Q) exploring connections between politics and development
* Record and organize minutes for board meetings

**Kenyon College** January 2015 – May 2017

*Kenyon-STEM Treasurer and Science Café Co-Chair* Gambier, OH

* Planned and led monthly, cross-discipline Science Café discussions of current topics in sciences and humanities
* Planned, managed, and distributed funds for 10+ organization events and outreach initiatives

**Kenyon College** August 2013 – February 2016

*Production Stage Manager (*previously *Assistant Stage Manager)* Gambier, OH

* Organized and managed rehearsals, materials, and production for teams of up to 33 actors and crew members
* Called cues and managed staff for performances with audiences of over 300 attendees

LANGUAGES

* English, French (Intermediate)