Kayla Kahn

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Skills

Statistical Techniques: Linear and non-linear regression, generalized linear models, survival analysis, time series analysis, mixed models, social network analysis, stochastic actor-oriented models, machine learning, deep learning, natural language processing (NLP)

Programming and Technology: R, Python, SQL, C++ (modifying and recompiling R packages), HTML5, CSS, GitHub, Excel

Languages: Spanish (working proficiency reading), German (limited working proficiency reading)

General: Data visualization, writing for various audiences, communicating statistical techniques and findings to a broad audience

Experience

Research Assistant, The Pennsylvania State University, *Dr. Marie Hojnacki* January 2024 – Present

- Wrote Python code to extract 2.7 million scraped tweets and metadata from nested JSON files
- Assessed classification accuracy of pre-trained transformer models and selected the best model to classify 2.7 million tweets as political or not political
- Created topic models in Python for 430,000 political tweets after classification
- Composed SQL queries to create tables and to insert and clean millions of rows of data

R Workshop Instructor, The Pennsylvania State University, *Department of Political Science* August 2024

- Taught R to incoming Political Science doctoral students who had little to no prior experience
- Developed coding tutorials that cover data manipulation in base R and tidyverse, data visualization with base R and ggplot2, simulations, loops, and user-defined functions

Primary Instructor, The Pennsylvania State University, *International Relations Theory* August 2023 – December 2023

- Guided students through the process of writing a research paper by providing feedback on smaller assignments that would eventually come together to be the final paper
- Facilitated discussion posts and provided feedback on assignments relating current events to international relations theory

Research Assistant, The Pennsylvania State University, *Drs. Glenn Palmer and Roseanne McManus* August 2019 – July 2020

- Collaborated with a team to code militarized conflicts into individual incidents based on news articles for the Militarized Interstate Dispute dataset — the most widely used interstate conflict dataset
- Assisted project leaders in aggregating separate incidents to the more complex dispute level and in finalizing the datasets for release
- Summarized information on entire conflicts into few-sentence narratives released alongside the data

Education

The Pennsylvania State University, University Park, PA
Doctor of Philosophy in Political Science and Social Data Analytics — *Expected* May 2025
Master of Arts in Political Science — August 2021

The University of Kansas, Lawrence, KS
Bachelor of Arts in Political Science — December 2017
Minor in Global and International Studies — GPA: 3.97

Selected Projects

- Burnham, Michael, **Kayla Kahn**, Rachel Peng, Ryan Wang. "Political DEBATE: Papers Efficient Zero-shot and Few-shot Classifiers for Political Text." *Revise & Resubmit*. Available on arXiv.
- Block, Ray, Jr., Michael Burnham, **Kayla Kahn**, Rachel Peng, Jeremy Seeman, and Christopher Seto. 2022. "Perceived Risk, Political Polarization, and Adherence to COVID-19 Mitigation Guidelines." *Social Science & Medicine* 305.
- Palmer, Glenn, Roseanne W. McManus, Vito D'Orazio, Michael R. Kenwick, Mikaela Karstens, Chase Bloch, Nick Dietrich, **Kayla Kahn**, Kellan Ritter, and Michael J. Soules. 2022. "The MID5 Dataset, 2011-2014: Procedures, Coding Rules, and Description." *Conflict Management and Peace Science* 39(4): 470-482.
- Developed a convolutional neural network with PyTorch to classify Fashion-MNIST data. Final project for deep learning course. Available on GitHub.
- Kahn, Kayla. Live and Let Die: Terrorist Group Lethality, Survival, and Success. Working paper. Uses competing risk survival models to examine the nonlinear relationship between terrorist group lethality and success.
- Kahn, Kayla. License to Kill: Terrorist Group Relationships and Lethality. Working paper. Uses temporal network autocorrelation models to assess the effect of terror group alliances and rivalries on organizational lethality.

- Kahn, Kayla. No Time to Die: The Effect of Lethality and Alliances on Terrorist Group Survival. Working paper. Uses RSiena and accelerated failure time models to explore how terrorist group alliances and lethality affect survival.

Additional Training

- Training in deep learning from the Global School for Empirical Research Methods through the University of St. Gallen. Coding was done in PyTorch (2022)
- Training in advanced network analysis from the Inter-university Consortium for Political and Social Research through the University of Michigan (2022)

Awards

Paterno Fellowship, The Pennsylvania State University 2022 – 2023
C-SoDA Accelerator Award, The Pennsylvania State University 2022
Political Science Graduate Research Fellowship, The Pennsylvania State University 2022
Jesse M. MacKnight Memorial Graduate Scholarship, The Pennsylvania State University 2019
Pi Sigma Alpha, The University of Kansas 2016

Other Experience

Teaching Assistant, The Pennsylvania State University, *Introduction to International Relations* August 2021 – December 2021

- Collaborated with other teaching assistants and professor in order to grade exams
- Expanded on concepts from lessons during office hours

Teaching Assistant, The Pennsylvania State University, *The Politics of Terrorism* January 2020 – May 2020

- Graded exams and held office hours to help students review major concepts

Digital Coordinator, Becky Fast for Johnson County Commission May 2018 – October 2018

- Developed a social media strategy and designed visual content including promotional images and videos

Research Intern, The Hudson Institute's Center for Political-Military Analysis September 2017 – May 2018

- Conducted qualitative research on security issues including weapons proliferation
- Summarized government reports and speeches into briefs
- Wrote short policy papers on security topics, edited drafts written by the director