

Andrew Halterman

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APPOINTMENTS

Michigan State University Assistant Professor, Political Science	Aug. 2022–present
New York University Faculty Fellow, Center for Data Science	Sept. 2021–Aug. 2022

EDUCATION

Massachusetts Institute of Technology PhD, Political Science Dissertation: <i>Three Essays on Natural Language Processing and Information Extraction with Applications to Political Violence and International Security</i> • Winner of the Lucian Pye Award for Outstanding PhD Thesis Committee: Rich Nielsen (chair), Fotini Christia, In Song Kim Affiliations: Security Studies Program, Political Methodology Lab	Sept. 2015–Sept. 2021
Amherst College Bachelor of Arts, <i>magna cum laude</i> , Political Science	Sept. 2007–May 2011

PEER-REVIEWED PUBLICATIONS

1. Yaoyao Dai, Benjamin Radford, and Andrew Halterman, 2022, "Political Event Coding as Text to Text Sequence Generation," *Proceedings of the 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2022)*. [Paper]
2. Andrew Halterman, Katherine A. Keith, Sheikh Muhammad Sarwar, and Brendan O'Connor, 2021, "Corpus-Level Evaluation for Event QA: The IndiaPoliceEvents Corpus Covering the 2002 Gujarat Violence." *Findings of the Association for Computational Linguistics*. [Paper, Code]
3. Andrew Halterman and Benjamin Radford, 2021, "Few-Shot Upsampling for Protest Size Detection," *Findings of the Association for Computational Linguistics*. [Paper, Code]
4. Rachel Tecott and Andrew Halterman, 2021, "The Case for Campaign Analysis: A Method for Studying Military Operations", *International Security*. [Paper]
5. Andrew Halterman, 2019, "Geolocating Political Events in Text," *Proceedings of the Third Workshop on Natural Language Processing and Computational Social Science, NAACL*. [Paper, Poster, Code]
Yan Liang, Khaled Jabr, Christan Grant, Jill Irvine, and Andrew Halterman, 2018, "New techniques for coding political events across languages," *IEEE International Conference on Information Reuse and Integration (IRI)*
6. Andrew Halterman, 2017, "Mordecai: Full Text Geoparsing and Event Geocoding," *The Journal of Open Source Software*, vol. 2, no. 9. [Python Package]
7. Andrew Halterman, Jill Irvine, Manar Landis, Phanindra Jalla, Yan Liang, Christan Grant, and Mohiuddin Solaimani, 2017, "Adaptive Scalable Pipelines for Political Event Data Generation," *The IEEE International Workshop on Benchmarking, Performance Tuning and Optimization for Big Data Applications (BPOD 2017)*. Boston, Massachusetts. [Paper]
8. John Beieler, Patrick Brandt, Andrew Halterman, Philip Schrodt, and Erin Simpson, 2016, "Generating Political Event Data in Near Real Time: Opportunities and Challenges," *Computational Social Science: Discovery and Prediction*, ed. R. Michael Alvarez, Cambridge University Press.
9. Andrew Halterman and Jill Irvine, 2014, "Bounded Altruism: INGO Opportunities and Constraints during Humanitarian Crises and US Intervention," *Journal of East European Politics* Vol. 30, Issue 4, 458–481.

REVISE and RESUBMIT

1. Andrew Halterman, "Synthetically generated text for supervised text analysis." [Paper, PolMeth 2022 Poster]

CONFERENCE and WORKING PAPERS

1. Andrew Halterman and Benjamin J. Radford, "Latent Civil War: Improving Inference and Forecasting with a Civil War Measurement Model". [Paper, PolMeth 2023 Presentation]
2. Andrew Halterman, Philip A. Schrodtt, Andreas Beger, Benjamin E. Bagozzi, and Grace Scarborough, "Creating Custom Event Data Without Dictionaries: A Bag-of-Tricks." [Paper, ISA 2023 Presentation]
3. Andrew Halterman, Benjamin E. Bagozzi, Andreas Beger, Philip A. Schrodtt, and Grace Scarborough, "Plover and Polecat: A New Political Event Ontology and Dataset." [Paper]
4. Andrew Halterman, "Extracting Political Events from Text Using Syntax and Semantics." [Paper, PolMeth and IC2S2 2020 Poster]
5. Andrew Halterman, "Violence against civilians in the Syrian civil war." [Paper, Appendix]
6. Andrew Halterman, Jill Irvine, and Khaled Jabr, "Do the answers you get depend on the news you read? Protests and violence in Syria." (APSA 2019, Washington, MA). [Paper]
7. Paige Bollen, Andrew Halterman, and Blair Read, "Do Perceptions Match Provision? Investigating the Gap between Levels of Service Provision and Citizen Perceptions in Sub-Saharan Africa." (APSA 2019, Washington, DC).
8. Andrew Halterman and Jill Irvine, "Introducing the New TERRIER Event Dataset", (APSA 2018 Mini-conference on Modern Event Data Development and Analysis, Boston, MA 2018).
9. Jill Irvine, Andrew Halterman, and Nicholas Halterman, "How Right Wing is Right Wing Populism? Evidence from the Manifesto Corpus," (Manifesto Corpus Conference, 2018, Berlin). [Paper]
10. "Creating an Automated Event Data System for Arabic Text," Annual Meeting of the International Studies Association (ISA). San Francisco, CA. 2018 (with Jill A. Irvine, Christan Grant, Khaled Jabr, Yan Liang)
11. Andrew Halterman, Benjamin Valentino, and Jay Ulfelder, "Mining News Stories for Predictive Signals of State-Led Mass Killing," (ISA 2016, Atlanta, GA).
12. Andrew Halterman, "Forecasting Anti-Regime Mobilization Using Structural Variables and Event Data," (ISA 2015, New Orleans, LA).
13. "A New, Near-Real-Time Event Dataset and the Role of Versioning," European Network for Conflict Research (ENCoRe) Fall Conference, Uppsala, Sweden (October 2014). [Paper, Code]
14. Andrew Halterman and Jill Irvine, "Measuring Political Mobilization: Insights from Massive Machine-Coded Datasets," (ISA 2014, Toronto). [Paper, Code]

FELLOWSHIPS, AWARDS, AND GRANTS

Winner of the Lucian Pye Award for Outstanding PhD Thesis (MIT Political Science, 2022)

NSF Graduate Research Fellowship, covering three years of tuition and stipend (one of 12 nationally)

Presidential Fellowship, MIT, covering first year of tuition and stipend (awarded to 125 students across MIT).

NSF RIDIR (named key personnel) "Extending Automated Event Data Coding Across Language, Location, and Source." Other team members/PIs consist of Patrick Brandt (project lead), Benjamin Bagozzi, John Freeman, Jennifer Holmes, Jill Irvine, Javier Osorio, and Philip Schrodtt. SBE-SMA-1539302

Minerva Initiative project W911NF-13-0332 (consultant), "New Techniques for Measuring Territorial Control in Civil Wars."

Kaggle Open Data grant, funding the creation of a new event extraction/semantic role labeling dataset (with Katherine Keith and Sheikh Muhammad Sarwar), 2020.

Fulbright Fellow, Kosovo. 2011–2012.

MIT Department of Political Science and Political Methodology Group funding for research and travel (2016, 2017, 2018, 2019).

TEACHING EXPERIENCE

* indicates a newly developed course

Machine Learning and Text Analysis ,* a fourth semester PhD course on machine learning and neural networks in Python for political scientists, with a focus on text analysis	MSU	Instructor	(2024)
Analyzing and Visualizing Data in Politics ,* a junior-level course on data visualization and analysis	MSU	Instructor	2023
Quant Methods II ,* a PhD course covering causal inference	MSU	Instructor	2023
Seminar in International Politics ,* a PhD seminar focusing on advanced quantitative methods in international relations	MSU	Instructor	2023
Text as Data , a masters-level course in data science covering applied approaches to computational text analysis	NYU	Instructor	2022
Political Science Thesis , an undergraduate course and research group for political science majors writing senior theses	MIT	Instructor	2020
Political Science Lab , an undergraduate course for political science majors on causal inference and statistical programming with R	MIT	Instructor (with Nina McMurray)	2020
Quantitative Methods 4 , a graduate methods course focusing on machine learning and advanced topics. Overall evaluation: 7.0/7.0	MIT	TA (In Song Kim, Instructor)	2018

Instructor for MIT Political Methodology Workshop series. "Numerical Python and Pandas" (2020), "Automated Text Analysis for Political Science" (2019), "Introduction to Python and Web Scraping" (2018, 2019), "dplyr + ggplot2: Grammars of Data Manipulation and Graphics in R" (2017), Introduction to LaTeX, Markdown, and Beamer for first semester PhD students (2016).

INVITED TALKS and WORKSHOPS

University of Michigan Peace and Conflict Workshop (2023)

ICSWM Tutorial Series: "Information Extraction for Social Science Research" (2022)

York Historical Warfare Analysis Group (November 2021).

Natural Language Processing+Computational Social Science 201: Beyond the basics (online workshop, October 2021) [[Youtube](#)]

Quantitative Methods Workshop, New York University (September 2021)

Political Violence Group, Nuffield College, University of Oxford (February 2018)

Computational Social Science Institute, University of Massachusetts–Amherst (November 2019)

SERVICE

Referee for *Political Analysis*, *International Security*, *Political Science Research and Methods*, *Journal of Peace Research*, Workshop on Natural Language Processing and Computation Social Science (EMNLP, 2020), Workshop Challenges and Applications of Automated Extraction of Socio-political Events from Text (ACL-IJCNLP 2021, RANLP 2023), *Transactions in GIS*, *Nature Scientific Data*, *Public Choice*.

Editor/Area chair for Empirical Methods in National Language Processing (2023).

Author and maintainer of Mordecai, the leading open-source Python library for identifying place names in text and resolving them to their geographic coordinates.

MSU Faculty Advisory Committee (department executive committee) (2023-2024)

MSU computational social science search committee (2023)

MSU annual review committee (2022-2023, 2023-2024)

MSU PhD admissions committee (2022-2023)

NYU Center for Data Science, Masters of Science in Data Science admissions committee (2022)

Co-organizer for the ISA panel "Advances in Automated Event Data" (March 2023)

Co-organizer for the APSA panel "New Methods in Security Studies" (August 2020)

Co-organizer of the Harvard-MIT-Tufts-Yale Political Violence Conference (May 2020)

Department mentorship co-chair, MIT Political Science (2019-2020).

Co-founder and organizer, "Quantitative Works in Progress" working group, MIT Department of Political Science (2019-2020).

Co-organizer for the APSA mini-conference "Modern Event Data Development and Analysis" (August 2018)

Co-organizer, "Graduate Student Works-in-Progress" working group, MIT Department of Political Science (2017-2018).

Chair and organizer for an International Studies Association panel, "Forecasting about the Future: Novel Forecasting Techniques and New Predictions" (February 2015).

Chair and organizer for an International Studies Association roundtable, "Assessing Forecasts of (Rare) International Events" (February 2015).

PROFESSIONAL EXPERIENCE

Technical Consultant	<i>various</i> Washington, DC, Boston, MA	May 2017-present
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Provided technical advice and custom software for several clients including the Political Instability Task Force, the US Holocaust Memorial Museum, university research projects, and a sports betting operation. Projects included automating predictive models, developing new pipelines for extracting information from text, and code to manage active learning annotation with multiple coders.

Machine Learning Engineer	<i>Kensho Technologies</i> Washington, DC	May 2017-August 2017
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Implemented data pipelines for transforming text into structured event data. Developed techniques for automated dictionary development. Deployed a custom text geoparsing system.

Andrew Halterman

Analyst *Caerus Associates* July 2013–June 2015
Washington, DC

Member of Caerus's data science team, working on counterinsurgency and cyber event detection at DARPA. Automated extraction of political information from news sources, including securing new source material, building models and visualizations using event data, and improving the data production process. Developed and applied software for extracting information from large datasets as part of a DARPA flagship big data program. Held a TOP SECRET clearance.

Research Intern *Center for Strategic and International Studies* Sept. 2012–May 2013
Washington, DC

Fulbright Fellow *Kosovar Institute for Policy Research and Development* Sept. 2011–June 2012
Prishtina, Kosovo

SKILLS

Numerical computing/stats: R, numpy, Stan, Bayesian methods
Machine learning: scikit-learn, pytorch, R, Keras/Tensorflow,
NLP: spaCy, CoreNLP, gensim, large-scale data annotation projects with Prodigy
Devops/engineering: containerization/Docker, continuous integration, git flow, microservice architecture.
Databases: MongoDB, ElasticSearch, SQL
Data visualization: ggplot2, Shiny
Previously held a TOP SECRET clearance.

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