

Andrew Halterman

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA Sept. 2015–May 2021 (exp.)
PhD Candidate, Political Science
Committee: Rich Nielsen (chair), Fotini Christia, In Song Kim
Affiliations: Security Studies Program, Political Methodology Lab
Research areas: quantitative methods, natural language processing, security studies

Amherst College, Amherst, MA Sept. 2007–May 2011
Bachelor of Arts, *magna cum laude*, Political Science

DISSERTATION

1. Andrew Halterman, "Extracting Political Events from Text Using Syntax and Semantics." [[Paper](#), [Poster](#)]
2. Andrew Halterman, "Violence against civilians in the Syrian civil war." [[Paper](#), [Appendix](#)]
3. 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](#)]

PEER-REVIEWED PUBLICATIONS

1. Rachel Tecott and Andrew Halterman, "The Case for Campaign Analysis: A Method for Studying Military Operations", *International Security* (forthcoming). [[Paper](#)]
2. 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](#)]
3. Andrew Halterman, "Mordecai: Full Text Geoparsing and Event Geocoding," 2017, *The Journal of Open Source Software*, vol. 2, no. 9. [[Python Package](#)]
4. John Beiler, 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.
5. 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.

CONFERENCE and WORKING PAPERS

1. 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](#)]
2. 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).
3. 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](#)]
4. "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)
5. Andrew Halterman, Benjamin Valentino, and Jay Ulfelder, "Mining News Stories for Predictive Signals of State-Led Mass Killing," (ISA 2016, Atlanta, GA).
6. Andrew Halterman, "Forecasting Anti-Regime Mobilization Using Structural Variables and Event Data," (ISA 2015, New Orleans, LA).

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7. "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](#)]
8. Andrew Halterman and Jill Irvine, "Measuring Political Mobilization: Insights from Massive Machine-Coded Datasets," (ISA 2014, Toronto). [[Paper](#), [Code](#)]

FELLOWSHIPS, AWARDS, AND GRANTS

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).

Key named personnel on NSF RIDIR grant: "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 Schrodt. SBE-SMA-1539302

Minerva Initiative project W911NF-13-0332, 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

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

SKILLS

Numerical computing: R, Python, Python and R package creation, visualization (ggplot2, Shiny), reproducible research, NLP and data extraction from text, database creation and management

Software: Python/numpy, R, spaCy, Stan, Keras, Docker, SQL, MongoDB, ElasticSearch, Unix/Linux/shell, LaTeX, CoreNLP, git

(Human) Languages: English, German

Previously held a position requiring a Single Scope Background Investigation.

TEACHING EXPERIENCE

Instructor for "Political Science Thesis". Undergraduate course and research group for political science majors writing senior theses.

Instructor for "Political Science Lab" (Nina McMurry, co-instructor). Undergraduate course for political science majors on causal inference and statistical programming with R.

Teaching assistant for "Quantitative Methods 4", (In Song Kim, instructor), graduate course focusing on machine learning and advanced topics. Overall evaluation: 7.0/7.0.

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).

Qualified to teach the following course (undergraduate or graduate level):

- Political science scope and methods
- Causal inference
- Machine learning for social science
- Natural language processing/text analysis
- Introductory statistics/regression
- Civil wars
- Security studies field seminar

PROFESSIONAL SERVICE

Referee for *Political Analysis*, Workshop on Natural Language Processing and Computation Social Science (EMNLP, 2020), *Transactions in GIS*.

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

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)

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

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

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.

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 meaning from text, and code to manage active learning annotation with multiple coders.

Analyst	<i>Caerus Associates</i> Washington, DC	July 2013–June 2015
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Member of Caerus's data science team, working on 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. Built and applied open source software for extracting information from large datasets as part of a DARPA flagship big data program.

Research Intern	<i>Center for Strategic and International Studies</i> Washington, DC	Sept. 2012–May 2013
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Fulbright Fellow	<i>Kosovar Institute for Policy Research and Development</i> Prishtina, Kosovo	Sept. 2011–June 2012
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