

Benjamin J. Radford

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Academic Appointments

Assistant Professor

University of North Carolina at Charlotte

Joint Appointment, Public Policy Ph.D. Program

2019–Present

Joint Appointment, Political Science and Public Administration

2019–Present

Affiliate, School of Data Science

2020–Present

Honors Faculty, Honors College

2022–Present

Education

Ph.D. in Political Science

Duke University

Durham, NC
2016

M.A. in Political Science

Duke University

Durham, NC
2015

B.A. in Mathematics and International Studies

University of North Carolina at Asheville

Asheville, NC
2010

Refereed Publications

13. **Radford, Benjamin J.**, Yaoyao Dai, Niklas Stoehr*, Aaron Schein, Mya Fernandez†, and Hanif Sajid* (2023). "Estimating conflict losses and reporting biases". *Proceedings of the National Academy of Sciences* 120.34. DOI: 10.1073/pnas.2307372120.
Reported on by eleven news outlets including: *swissinfo.ch*, *watson.ch*, *RSI.ch*, *La Liberte*, *RTN.ch*, *MSN*, *Bluewin.ch*, *Radio Top*, *Sudostschweiz.ch*, *Cash.ch*, and *GMX.net*.
Impact Factor: 11.1. **H5 Index:** 268.
12. Stoehr, Niklas*, **Benjamin J. Radford**, Ryan Cotterell, and Aaron Schein (2023). "The Ordered Matrix Dirichlet for State-Space Models". *Proceedings of The 26th International Conference on Artificial Intelligence and Statistics*. Ed. by Francisco Ruiz, Jennifer Dy, and Jan-Willem van de Meent. Vol. 206. *Proceedings of Machine Learning Research*. PMLR, pp. 1888–1903.
H5 Index: 91.
11. Dai, Yaoyao, **Benjamin J. 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)*. Abu Dhabi, United Arab Emirates (Hybrid). Association for Computational Linguistics, pp. 117–123.
10. Hürriyetoğlu, Ali, Osman Mutlu, Firat Duruşan, Onur Uca, Alaeddin Gürel, **Benjamin J. Radford**, Yaoyao Dai, Hansi Hettiarachchi, Niklas Stoehr, Tadashi Nomoto, Milena Slavcheva, Francielle Vargas, Aaqib Javid, Fatih Beyhan, and Erdem Yörük (2022). "Extended Multilingual Protest News Detection - Shared Task 1, CASE 2021 and 2022". *Proceedings of the 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE)*. Abu Dhabi, United Arab Emirates (Hybrid). Association for Computational Linguistics, pp. 223–228.
9. **Radford, Benjamin J.** (2022). "High resolution conflict forecasting with spatial convolutions and long short-term memory". *International Interactions* 48.4, pp. 739–758. DOI: 10.1080/03050629.2022.2031182.
Impact Factor: 1.2.

8. Gao, Jingjing* and **Benjamin J. Radford** (2021). "Death by Political Party: The Relationship Between COVID-19 Deaths and Political Party Affiliation". *World Medical & Health Policy* 13, pp. 224–249. DOI: 10.1002/wmh3.435.
Impact Factor: 4.1. **H5 Index:** 18.
7. Halterman, Andrew and **Benjamin J. Radford** (2021). "Few-Shot Upsampling for Protest Size Detection". *Findings of the Association for Computational Linguistics ACL-IJCNLP 2021*, pp. 3713–3720. doi: 10.18653/v1/2021.findings-acl.325.
6. **Radford, Benjamin J.** (2021). "Automated Dictionary Generation for Political Event Coding". *Political Science Research and Methods* 9.1, pp. 157–171. doi: 10.1017/psrm.2019.1.
Impact Factor: 5.2. **H5 Index:** 42.
5. **Radford, Benjamin J.** (2021). "CASE 2021 Task 2: Zero-Shot Classification of Fine-Grained Sociopolitical Events with Transformer Models". *Proceedings of the 4th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2021)*, pp. 203–207. doi: 10.18653/v1/2021.case-1.25.
4. **Radford, Benjamin J.** (2021). "Regressing Location on Text for Probabilistic Geocoding". *Proceedings of the 4th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2021)*, pp. 53–57. doi: 10.18653/v1/2021.case-1.8.
3. **Radford, Benjamin J.** (2020). "Seeing the Forest and the Trees: Detection and Cross-Document Coreference Resolution of Militarized Interstate Disputes". *Proceedings of AESPEN 2020, LREC 2020*, pp. 35–41.
2. **Radford, Benjamin J.** (2019). "Multitask Models for Supervised Protest Detection in Texts". *Working Notes of CLEF 2019* 2380.
1. Minhas, Shahryar and **Benjamin J. Radford** (2017). "Enemy at the Gates Variation in Economic Growth from Civil Conflict". *Journal of Conflict Resolution* 61.10, pp. 2105–2129.
Impact Factor: 3.2. **H5 Index:** 51.

*Graduate student coauthor.

†Undergraduate student coauthor.

Other Publications (Not Refereed)

11. Das Purba, Moumita*, Arpita Ghosh*, **Benjamin J. Radford**, and Bill Chu (2023, Invited paper). "Software Vulnerability Detection using Large Language Models". *Proceedings of the 2023 IEEE International Workshop on Machine Learning for Signal Processing*. 33rd IEEE International Workshop on Machine Learning for Signal Processing. IEEE.
10. **Radford, Benjamin J.**, Yaoyao Dai, Niklas Stoehr*, Aaron Schein, Mya Fernandez†, and Hanif Sajid* (2023). "Estimating troop losses on both sides in the Russia-Ukraine war". *The Loop*. ECPR.
9. Richardson, Bartley D., Shawn E. Davis, and **Benjamin J. Radford** (2018). "Sequence Aggregation Rules for Anomaly Detection in Computer Network Traffic". Presented at the 2018 ASA Symposium on Data Science and Statistics.
8. Richardson, Bartley D., **Benjamin J. Radford**, Shawn E. Davis, Keegan Hines, and David Pekarek (2018). "Anomaly Detection in Cyber Network Data Using a Cyber Language Approach". Presented at the 2018 ASA Symposium on Data Science and Statistics.
7. **Radford, Benjamin J.**, Leonardo Apolonio, Antonio Trias, and Jim A. Simpson (2017). "Network Traffic Anomaly Detection Using Recurrent Neural Networks". Presented at the 2017 MSS National Symposium on Sensor & Data Fusion.
6. Beger, Andreas, **Benjamin J. Radford**, and Michael D. Ward (2015). "Small-scale prediction of IEDs in Afghanistan using split-population duration regression". Prepared for the Office of Naval Research.
5. Beger, Andreas, Joshua Cutler, Matthew Dickenson, Cassy Dorff, **Benjamin J. Radford**, and Michael D. Ward (2013). "Comparing GDELT and ICEWS Event Data". Published online.

4. **Radford, Benjamin J. (2010)**. "The Evolution of US Policy Towards Iran's Nuclear Program: Lessons for the Obama Administration". *UNC Asheville Journal of Undergraduate Research*.
3. **Radford, Benjamin J. (2008)**. "Iran Likely to Take Accusatory Stance at CWC Review Conference". *WMD Insights* April, pp. 39–43.
2. **Radford, Benjamin J. and Leonard Spector (2008)**. "Algeria, Emirates Plan Nonproliferation-Friendly Nuclear Programs; Egypt Keeps Fuel Cycle Options Open, Rejects Expanded IAEA Monitoring". *WMD Insights* June, pp. 2–7.
1. **Radford, Benjamin J. and Leonard Spector (2008)**. "Summary of Recent United Nations Security Council, European Union, and United States Sanctions Against Iran". *WMD Insights* April, pp. 44–50.

External Grants

Co-PI. DOD Defense Intelligence Agency. \$299,868. <i>UNC Charlotte Intelligence Community Center of Academic Excellence</i>	2023
PI. National Security Agency. \$96,334. <i>Forecasting Security Updates to Identify Vulnerable Software</i>	2022
Senior/Key Participant. National Science Foundation. \$1,000,000. <i>Building the Federalism Data and Advanced Statistics Hub (F-DASH)</i>	2019

Internal Grants

Co-PI. UNC Charlotte School of Data Science. \$15,000. <i>The Evolution of Intellectual Elite's Immigration Attitudes</i>	2022
PI. UNC Charlotte Faculty Research Grant. \$8,000. <i>From Protest to Tragedy—Violence Escalation in Space and Time</i>	2022
Co-PI. UNC Charlotte 12-Month Planning Grant. \$25,000. <i>Peace And Conflict Innovations Laboratory to Study Computational Propaganda</i>	2020
Recipient. Duke University Graduate Studies Fellowship.	2011–2016
Recipient. Duke University Graduate School Conference Travel Fellowship.	2013, 14, 15

Software

mmtsne A package for estimating <i>multiple maps t-distributed stochastic neighbor embedding</i> (multiple maps t-SNE) models in R. Open source and available on CRAN: https://cran.r-project.org/package=mmtsne	2017
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Working Papers

5. Atkinson, Mary Layton and **Benjamin J. Radford (Manuscript in preparation)**. "Measuring the Ideology of Major Laws".
4. Halterman, Andrew and **Benjamin J. Radford (Manuscript in preparation)**. "Latent Civil War: Improving Inference and Forecasting with a Civil War Measurement Model". *PolMeth Conference Paper*.
3. Liu, Howard and **Benjamin J. Radford (Manuscript in preparation)**. "Undercover Policing of Protest: Evidence from Hong Kong".
2. Dai, Yaoyao, Jingjing Gao, and **Benjamin J. Radford (Under review)**. "From Fear to Hate: Sources of Anti-Asian Sentiment During COVID-19".
1. Han, Dongyun*, Abdullah Al Raihan Nayeem, Jason Windett, Yaoyao Dai, **Benjamin J. Radford**, and Isaac Cho (**Under review**). "A Survey on Visualization Approaches in Political Science for Social and Political Factors: Progress to Date and Future Opportunities".

Patents Pending

A method of using artificial intelligence to predict the treatability of water
With Amir Younis Alansari and James E. Amburgey

Pending

Invited Talks

UNC Charlotte CyberDNA <i>Machine Learning Approaches for Cybersecurity Incident Measurement</i>	2021
Georgia Tech School of Electrical and Computer Engineering <i>Machine Learning Approaches for Cybersecurity Incident Measurement</i>	2019
DC Digital Analytics <i>Multilingual Text Classification with Multitask Neural Networks</i>	2018
Symposium on Data Science and Statistics, American Statistical Association <i>Network Traffic Anomaly Detection Using Recurrent Neural Networks</i>	2018
Conference on Applied Statistics in Defense, American Statistical Association <i>Cyberlanguage: Enhancing cybersecurity through statistical and natural language processing techniques</i>	2016

Conference Presentations

Annual Meeting of the American Political Science Association	2015, 18, 21, 22, 23
Annual Meeting of the Society for Political Methodology	2022, 23
Carolinas Conflict Consortium	2020, 23
CASE Workshop at EMNLP	2022
Annual Meeting of the International Studies Association	2015, 22
Annual Meeting of the Southern Political Science Association	2013, 19, 20, 22
CASE Workshop at ACL-IJCNLP	2021
Violence Early Warning System (VIEWS) Prediction Competition.	2020
Conference on Language Resources and Evaluation, AESPEN Workshop	2020
Conference on New Directions in Analyzing Text as Data	2018
Military Sensing Symposium, National Symposium on Sensor & Data Fusion	2017
Annual Meeting of the Midwest Political Science Association	2013, 14, 15
Duke-UNC International Relations Workshop	2014

Courses Offered

Instructor of Record <i>University of North Carolina at Charlotte</i>	Charlotte, NC 2019–Present
<ul style="list-style-type: none"> • PPOL 8101: <i>Data Management and Basic Analytics</i> • GRAD 8009 & 6009: <i>Data Science for Social Scientific Inquiry</i> • GRAD 6101 & 8101: <i>Linear Regression</i> • GRAD 6103 & 8103: <i>Classificatory Methods & Time Series</i> • POLS 2220: <i>Political Science Research Methods</i> • POLS 3154: <i>Cyberspace & Politics</i> • POLS 3700: <i>Honors Research</i> • POLS 3800: <i>Independent Study</i> • POLS 4700: <i>Honors Thesis</i> 	
Invited Lecture <i>George Mason University</i>	Arlington, VA Nov. 2017
<ul style="list-style-type: none"> • CSI 899: <i>Computational Research and Applications</i> 	
Teaching Assistant <i>Duke University</i>	Durham, NC 2013
<ul style="list-style-type: none"> • POLSCI 130: <i>Introduction to Political Inquiry</i> 	

Mentoring

Dissertation Committee Member

- Moumita Das Purba
- Robert Pinka
- Dr. Ivan Flores-Martinez
- Dr. Jingjing Gao

Honors Thesis Advisor

- Mya Fernandez
- Connor Frunzi
- Scott Christensen

Professional Service

Reviewer

- American Journal of Political Science (AJPS)
- Political Science Research and Methods (PSRM)
- British Journal of Political Science (BJPS)
- International Studies Review
- International Interactions
- Empirical Methods in Natural Language Processing (EMNLP) 2022
- Nonprofit and Voluntary Sector Quarterly
- American Journal of Preventive Medicine
- IEEE/ACM Transactions on Networking
- IEEE Transactions on Network and Service Management
- iScience

Discussant , Carolinas Conflict Consortium	2023
Organizing Committee Member , The 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2022).	2022
Program Committee Member , The 4th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2021) the Association for Computational Linguistics.	2021
Chair , UNC Charlotte Cybersecurity Symposium	2020
Program Committee Member , AESPEN LREC 2020	2020
Chair , SPSA New Approaches in the Study of Terrorism and Civil War	2020
Discussant , APSA Panel on Prediction	2015

University Service

Chair , Public Policy Brown Bag Committee (PPOL)	2022–2023
Non-voting Junior Faculty Observer , Dept. Review Committee (POLS)	2021–2022
Department Representative , Faculty Council (POLS)	2020–2021
Author & Grader , Qualifying Exam Committee (PPOL)	2020, 21, 22
Committee Member , Speakers Committee (SDS)	2021
Committee Member , Awards Committee (POLS)	2020–2021
Committee Member , International Relations Search Committee (POLS)	2020–2021
Committee Member , Curriculum Review Committee (PPOL)	2020–2021
Participant , New Faculty Learning Community	2019–2020
Participant , New Faculty Mentoring Program	2019–2020

Professional Memberships

American Political Science Association	2017, 18, 21, 22, 23
Society for Political Methodology	2017, 18, 21, 22, 23
Association for Computational Linguistics	2021, 23
Linguistic Data Consortium	2020, 21, 22

Professional Experience

President <i>Radford Consulting, LLC</i>	Arlington, VA 2018–Present
President <i>LevelUp Research, LLC</i>	Alexandria, VA 2018–Present
Subject Matter Expert <i>Giant Oak, Inc.</i>	Arlington, VA 2022–2023
Principal Data Scientist <i>Sotera Defense Solutions (later KeyW Corporation)</i>	Arlington, VA 2016–2018
Senior Data Scientist <i>Caerus Associates (later Cybraics, Inc.)</i>	Arlington, VA 2015–2016