Benjamin J. **Radford**

Political Scientist · Data Scientist

⌂ benradford.com

―――――――――――――――― **Education** ――――――――――――――――

Ph.D. in Political Science　　　　　　　　　　　　　　　　　　Durham, NC
Duke University　　　　　　　　　　　　　　　　　　　　　　　　2016

M.A. in Political Science　　　　　　　　　　　　　　　　　　　Durham, NC
Duke University　　　　　　　　　　　　　　　　　　　　　　　　2015

B.A. in Mathematics and International Studies　　　　　　Asheville, NC
University of North Carolina at Asheville　　　　　　　　　　　2010

―――――――――――――――― **Academic Appointments** ――――――――――――――――

Assistant Professor
University of North Carolina Charlotte

Core Faculty, Public Policy Ph.D. Program　　　　　　　　　2019–Present
Core Faculty, Political Science and Public Administration　　2019–Present
Affiliate, School of Data Science　　　　　　　　　　　　　　2020–Present
Honors Faculty, Honors College　　　　　　　　　　　　　　2022–Present

―――――――――――――――― **Professional Experience** ――――――――――――――――

President　　　　　　　　　　　　　　　　　　　　　　　　Alexandria, VA
LevelUp Research, LLC　　　　　　　　　　　　　　　　　2018–Present

Subject Matter Expert for DARPA *SafeDocs*　　　　　　　　2019–2022
Subject Matter Expert for DARPA *Hybrid Fusion*　　　　　　2018–2019

Subject Matter Expert　　　　　　　　　　　　　　　　　Arlington, VA
Giant Oak, Inc.　　　　　　　　　　　　　　　　　　　　2022–Present

DARPA *INCAS*

Principal Data Scientist　　　　　　　　　　　　　　　　Arlington, VA
Sotera Defense Solutions (later KeyW Corporation)　　　　2016–2018

DARPA *unnamed cybersecurity attribution program*

Senior Data Scientist　　　　　　　　　　　　　　　　　Arlington, VA
Caerus Associates (later Cybraics, Inc.)　　　　　　　　　2015–2016

DARPA *Network Defense*

―――――――――――――――― **Refereed Publications** ――――――――――――――――

Radford, Benjamin J. (**2022**). "High Resolution Conflict Forecasting with Spatial Convolutions and Long Short-Term Memory". *International Interactions*, pp. 1–20. doi: `10.1080/03050629.2022.2031182`.

Gao, Jingjing (Graduate Student Co-Author) 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`.

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`.

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`.

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`.

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`.

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.

Radford, **Benjamin J.** (**2019**). "Multitask Models for Supervised Protest Detection in Texts". *Working Notes of CLEF 2019* 2380.

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.

Reports (Not Refereed)

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. url: `https://arxiv.org/abs/1805.03735`.

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. url: `https://arxiv.org/abs/1808.10742`.

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. url: `https://arxiv.org/abs/1803.10769`.

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.

Beger, Andreas, Joshua Cutler, Matthew Dickenson, Cassy Dorff, **Benjamin J. Radford**, and Michael D. Ward (**2013**). "Comparing GDELT and ICEWS Event Data". Published online. url: `https://www.researchgate.net/publication/303211430_Comparing_GDELT_and_ICEWS_event_data`.

Radford, **Benjamin J.** (**2010**). "The Evoution of US Policy Towards Iran's Nuclear Program: Lessons for the Obama Administration". *UNC Asheville Journal of Undergraduate Research*.

Radford, **Benjamin J.** (**2008**). "Iran Likely to Take Accusatory Stance at CWC Review Conference". *WMD Insights* April, pp. 39–43.

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 Insigths* June, pp. 2–7.

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.

Software

mmtsne   2017

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

External Grants Obtained

PI. National Security Agency. $96,334.   2022
Forecasting Security Updates to Identify Vulnerable Software

Senior/Key Participant. National Science Foundation. $1,000,000.   2019
Building the Federalism Data and Advanced Statistics Hub (F-DASH)

Internal Grants Obtained

Co-PI. UNC Charlotte School of Data Science. $15,000.   2022
The Evolution of Intellectual Elite's Immigration Attitudes

PI. UNC Charlotte Faculty Research Grant. $8,000.   2022
From Protest to Tragedy–Violence Escalation in Space and Time

Co-PI. UNC Charlotte 12-Month Planning Grant. $25,000.   2020
Peace And Conflict Innovations Laboratory to Study Computational Propaganda

Recipient. Duke University Graduate Studies Fellowship.   2011–2016

Recipient. Duke University Graduate School Conference Travel Fellowship. 2013, 14, 15

External Grant Submissions

Co-PI. NSF AIB. $405,720.   2022
Attributing Policies to Actors through Semantic Content Evaluation

Co-PI. Russell Sage Foundation. $50,000.   2022
How social scientists learned to stop worrying and love immigration

Co-PI. DARPA. $1,000,000.   2021
CANA-Dip: Credibility-Aware Negotiation Agent for Diplomacy

Co-PI. NSF. $1,000,000.   2021
PIPP Phase I: Preventing Pre-Emergence of Zoonotic Pathogens: Detection, Evolution, Ecosystems, Social Behavior and Education

Co-PI. NSF. $290,842.   2021
The Language of Neighborhoods: A Predictive and Analytical Framework

Co-PI. DARPA. $1,205,105.   2020
eMPiRIC: Modeling Population Response to Information Campaigns

Co-PI. NSF. $19,996,313.   2020
'AI for All' Institute: Bringing Diversity in AI Workforce Readiness, Research, and Outreach

Co-PI. DoD. $444,534.   2020
TRISS: Task-Oriented Robust Intelligent Assistant for System Safety

Co-PI. William T. Grant Foundation. $996,201.   2020
Building the Federalism Data and Advanced Statistics Hub

Co-PI. NCSU Laboratory for Analytic Sciences. $71,314.   2020
Improving Translation Rigor via Reinforcement Learning and Machine Translation Quality Estimation

Co-PI. UNC System Research Opportunities Initiative RFP. Budget not required.   2020
Machine Intelligence and Security Studies Lab (MISSL)

PI. DARPA Young Faculty Award. Budget not required.   2019
Event Graph Inference from Text Corpora

Co-PI. DoD Basic Research Program for HBCU/MI. $658,946.   2019
Surveillance, Conflict, and Dissent: New Data, Methods, and Theory for the Information Era

Co-PI. UNC System Research Opportunities Initiative RFP. Budget not required.   2019
Peace and Conflict Innovations Laboratory to Study Computational Propaganda

Co-PI. UNC Undergraduate Research Office. $25,238.   2019
Introduction to Open Science for Undergraduates: Teaching and Foundations of Transparent and Reproducible Research

Internal Grant Submissions

PI. UNC Charlotte Faculty Research Grant. $8,000.   2020
Multi-Document Detection of Complex Social Events

Invited Talks

UNC Charlotte CyberDNA   2021
Machine Learning Approaches for Cybersecurity Incident Measurement

Georgia Tech School of Electrical and Computer Engineering   2019
Machine Learning Approaches for Cybersecurity Incident Measurement

DC Digital Analytics   2018
Multilingual Text Classification with Multitask Neural Networks

Symposium on Data Science and Statistics, American Statistical Association   2018
Network Traffic Anomaly Detection Using Recurrent Neural Networks

Conference on Applied Statistics in Defense, American Statistical Association   2016
Cyberlanguage: Enhancing cybersecurity through statistical and natural language processing techniques

Conference Presentations

Annual Meeting of the American Political Science Association
Measuring the Ideology of Major Laws   2022
How Social Scientists Learn to Stop Worrying and Love Immigration   2022
What is Word Embedding and How Can it Be Useful for Social Science Research   2021
Identifying Party Families with Time Series Multilingual Word Embedding   2021
Automated Dictionary Generation for Political Event Coding   2018
Going Ballistic: Nuclear Bursts in North Korea and Outbursts on Twitter   2018
Improving Multilingual Comparability with Transfer Learning   2018
Big Data for the Dark Side: Mapping the Rebel Alliance   2015
Annual Meeting of the Society for Political Methodology
How Social Scientists Learn to Stop Worrying and Love Immigration   2022
Towards Better Human Annotation   2022
Annual Meeting of the International Studies Association
Why Do You Dress Like Us?   2022
High Resolution Conflict Forecasting with Spatial Convolutions and Long Short-Term Memory 2022
Tactics of Insurgency and the Micro-Dynamics of IED Use   2015
Annual Meeting of the Southern Political Science Association
From Fear to Hate: Anti-Asian Sentiment During COVID-19   2022
Spatial Predictors of Protest Suppression Events   2020
Multilingual Word Embedding for Zero-Shot Text Classification   2019
Primed for Defense: How I Learned to Start Worrying and Love the Bomb   2013
CASE Workshop at ACL-IJCNLP
Regressing Location on Text for Probabilistic Geocoding   2021
Few-Shot Upsampling for Protest Size Detection   2021
CASE 2021 Task 2: Zero-Shot Classification...   2021
Violence Early Warning System (ViEWS) Prediction Competition.
High-Resolution Conflict Forecasting...   2020
Conference on Language Resources and Evaluation, AESPEN Workshop
Seeing the Forest and the Trees...   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

Teaching Experience

Courses Taught

Instructor   Charlotte, NC
University of North Carolina at Charlotte   2019–Present
  - PPOL 8101: *Data Management and Basic Analytics*
  - GRAD 8009 & 6009: *Data Science for Social Scientific Inquiry*
  - GRAD 6101 & 8101: *Linear Regression*
  - GRAD 6103 & 8103: *Classificatory Methods & Time Series*
  - POLS 2220: *Political Science Research Methods*
  - POLS 3154: *Cyberspace & Politics*
  - POLS 3700: *Honors Research*
  - POLS 3800: *Independent Study*
  - POLS 4700: *Honors Thesis*

Invited Lecture   Arlington, VA
George Mason University   Nov. 2017
  - CSI 899: *Computational Research and Applications*

Teaching Assistant for Professor Kyle Beardsley   Durham, NC
Duke University   2013
  - POLSCI 130: *Introduction to Political Inquiry*

Service

Professional Service

Organizing Committee Member, The 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2022).	2022
Reviewer, Nonprofit and Voluntary Sector Quarterly	2022
Reviewer, Empirical Methods in Natural Language Processing 2022: *Unsupervised and Weakly-Supervised Methods in NLP*	2022
Reviewer, International Interactions	2021
Reviewer, American Journal of Political Science	2021
Reviewer, American Journal of Preventive Medicine	2021
Program Committee Member, Reviewer, The 4th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2021) the Association for Computational Linguistics.	2021
Reviewer, IEEE/ACM Transactions on Networking	2020
Panel Chair, UNC Charlotte Cybersecurity Symposium	2020
Program Committee Member, Reviewer, AESPEN LREC 2020	2020
Reviewer, British Journal of Political Science	2020
Chair & Discussant, SPSA New Approaches in the Study of Terrorism and Civil War	2020
Reviewer, IEEE: Transactions on Network and Service Management	2019
Reviewer, Political Science Research & Methods	2018
Discussant, APSA Panel on Prediction	2015
Reviewer, International Studies Review	

University Service

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

Public Service

Judge, Northern Virginia Regional Science Fair	2019

Honors & Awards

Finalist, Data Visualization Contest, Duke University	2013
Graduated summa cum laude, University of North Carolina at Asheville	2010
Top Graduating Math Student, University of North Carolina at Asheville	2010
Distinction in International Studies, University of North Carolina at Asheville	2010
Finalist, Hasbro NERF *Battle of the Ads*	2010

Professional Memberships

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