Benjamin J. **Radford**

POLITICAL SCIENTIST · DATA SCIENTIST · TS/SCI

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Professional Experience

Assistant Professor *Charlotte, NC*
UNIVERSITY OF NORTH CAROLINA CHARLOTTE *2019–Present*
Public Policy Ph.D. Program & Political Science and Public Administration

President & Chief Scientist *Alexandria, VA*
LEVELUP RESEARCH, LLC *2018–Present*
DARPA *SafeDocs* & DARPA *Hybrid Fusion*

Principal Data Scientist *Arlington, VA*
SOTERA DEFENSE SOLUTIONS / KEYW CORPORATION *2017–2018*
DARPA cybersecurity attribution program

Senior Data Scientist *Arlington, VA*
CAERUS ASSOCIATES / CYBRAICS *2015–2016*
DARPA *Network Defense*

Education

Ph.D. in Political Science *Durham, NC*
DUKE UNIVERSITY *2016*
M.A. in Political Science *Durham, NC*
DUKE UNIVERSITY *2013*
B.A. in Mathematics and International Studies *Asheville, NC*
UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE *2010*

Grants & Contracts

Co-PI, UNCC 12-Month Planning Grant ($25,000) *2020*
Subject Matter Expert, DARPA *SafeDocs* ($998,998.86) *2019–2022*
Co-PI, DARPA *Hybrid Fusion* ($169,356.40) *2019–2020*
Co-PI, DARPA contract ($154,422.65) *2019*
PI, DARPA contract ($1M+) *2017–2018*
Graduate Studies Fellowship, Duke University *2011–2016*
Graduate School Conference Travel Fellowship, Duke University *2015, 14, 13*

Peer-Reviewed Publications

"Multitask Models for Supervised Protest Detection in Texts" *2019*
CEUR Workshop Proceedings. Vol. 2380.

"Automated Dictionary Generation for Political Event Coding" *2019*
Political Science Research and Methods.

"Enemy at the Gates: Variation in Economic Growth from Civil Conflict." *2017*
Journal of Conflict Resolution: 61(10):2105-2129.
with Shahryar Minhas.

Technical and Policy Publications

"Anomaly Detection in Cyber Network Data Using a Cyber Language Approach"   *2018*
Prepared for the *2018 ASA Symposium on Data Science and Statistics*. Available at arXiv:1808.10742.
with Bartley D. Richardson, Shawn E. Davis, Keegan Hines, and David Pekarek.

"Sequence Aggregation Rules for Anomaly Detection in Computer Network Traffic"   *2018*
Prepared for the *2018 ASA Symposium on Data Science and Statistics*. Available at arXiv:1805.03735.
with Bartley D. Richardson and Shawn E. Davis.

"Network Traffic Anomaly Detection Using Recurrent Neural Networks"   *2017*
Proceedings of the 2017 MSS National Symposium on Sensor & Data Fusion. Available at arXiv:1803.10769.
with Leonardo Apolonio, Antonio Trias, and Jim A. Simpson.

"Small-scale prediction of IEDs in Afghanistan using split-population duration regression"   *2015*
Submitted to the Office of Naval Research.
with Andreas Beger and Michael D. Ward.

"Comparing GDELT and ICEWS Event Data"   *2013*
Published online. Available at Research Gate.
with Michael D. Ward, Andreas Beger, Josh Cutler, Matthew Dickenson, and Cassy Dorff.

"The Evolution of US Policy towards Iran's Nuclear Program: Lessons for the Obama Administration"   *2010*
UNC Asheville Journal of Undergraduate Research.

"Iran Likely to Take Accusatory Stance at CWC Review Conference"   *2008*
WMD Insights (April): 39-43.

"Summary of Recent United Nations Security Council, European Union, and United States Sanctions Against Iran"   *2008*
WMD Insights (April): 44-50.
with Leonard Spector.

"Algeria, Emirates Plan Nonproliferation-Friendly Nuclear Programs; Egypt Keeps Fuel Cycle Options Open, Rejects Expanded IAEA Monitoring"   *2008*
WMD Insights (June): 2-7.
with Leonard Spector.

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

Invited Talks

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

Working Papers

"0-BlinC: Zero-Shot Bilingual Text Classification without Translation"   *Working paper*
with Yaoyao Dai.

"Multilingual Word Embedding for Zero-Shot Text Classification"   *Working paper*
with Yaoyao Dai.

"Varieties of Authoritarianism and Peace through Trade, 1950-1999"   *Under review*
with Joseph Grieco and Christopher Gelpi.

Works in Progress

"Structural Embedding for Explainable Word Vectors"   *with Yaoyao Dai*
"Forecasting Conflicts in Space and Time with Recurrent CNNs"
"Inferring High-Resolution Latent Social Indicators from Unstructured Data"

Conference Presentations

Annual Meeting of the Southern Political Science Association   *2013, 2019, 2020*
Annual Meeting of the American Political Science Association   *2015, 2018*
Conference on New Directions in Analyzing Text as Data   *2018*
Military Sensing Symposium, National Symposium on Sensor & Data Fusion   *2017*
Annual Meeting of the International Studies Association   *2015*
Annual Meeting of the Midwest Political Science Association   *2013, 2014, 2015*
Duke-UNC International Relations Workshop   *2014*

Teaching Experience

Instructor   *Charlotte, NC*
UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE   *2019–Present*
- GRAD 8009 & 6009: *Data Science for Social Scientific Inquiry*
- GRAD 6101 & 8101: *Linear Regression*
- POLS 3800: *Independent Study*
- POLS 2220: *Political Science Research Methods*

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*

Academic Service

Organizing Committee Member, AESPEN LREC 2020   *2020*
Reviewer, IEEE: Transactions on Network and Service Management
Reviewer, Political Science Research & Methods
Reviewer, International Studies Review
Chair & Discussant, SPSA New Approaches in the Study of Terrorism and Civil War   *2020*
Discussant, APSA Panel on Prediction   *2015*
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*