

Devin J. Cornell, PhD

Computational Social
Science Researcher &
Consultant

Email: devin.cornell@duke.edu
Phone: (515) 981-6764
Website: devinjcornell.com

Education

- 2023 Ph.D. **Sociology, Duke University.**
Dissertation: *Social Cohesion in the Fat Liberation Community on Twitter.*
([link](#))
- 2019 M.A. **Sociology, UC, Santa Barbara.**
Thesis: *Discursive Fields and Intra-party Influence in Colombian Politics.*
([link](#))
- 2015 B.S. **Electrical Engineering, Missouri University of Science and Technology.**
Minor in mathematics and emphasis on signal processing and machine learning.

Research Interests: culture, computational social science, network analysis, text analysis.

Refereed Journal and Conference Articles

- Boutyline, Andrei., Alina Arseniev-Koehler, and **Devin J. Cornell**. 2023. "School, Studying, and Smarts: The Gender of Education Across 80 Years of American Print Media, 1930-2009." *Revise and Resubmit, Social Forces*. ([link](#) / [SocArXiv Preprint](#))
- Combs, Aidan, Graham Tierney, Fatima Alqabandi, **Devin J. Cornell**, Gabriel Varela, Andrés Castro Araújo, Lisa P. Argyle, Christopher A. Bail & Alexander Volfovsky. (2023) "Perceived gender and political persuasion: a social media field experiment during the 2020 US Democratic presidential primary election." *Scientific Reports*. ([link](#))
- Boutyline, Andrei., **Devin J. Cornell**, and Alina Arseniev-Koehler. 2021. "All Roads Lead to Polenta: Cultural Attractors at the Junction of Public and Personal Culture." *Sociological Forum*. ([link](#))
- Hopp, Frederic R., Jacob T. Fisher, and **Devin J. Cornell**, Richard Huskey, and René Weber. 2020. "The Moral Foundations Dictionary for News (MFD-N): A Crowd-Sourced Moral Foundations Dictionary for the Automated Analysis of News Corpora." *Behavior Research Methods*. ([link](#))
- Voth-Gaeddert, L. E., M. Stoker, **Devin J. Cornell**, and D. B. Oerther. 2018. "What causes childhood stunting among children of San Vicente, Guatemala: Employing

complimentary, system-analysis approaches." *International Journal of Hygiene and Environmental Health*, 1–6. ([link](#))

Voth-Gaeddert, L. and **Devin J. Cornell**. 2016. "Improving Health Information Systems in Guatemala Using Weighted Correlation Network Analysis." *Global Humanitarian Technology Conference 2016*. ([link](#))

Other Academic Publications

Cornell, Devin J. and John W. Mohr. 2020. "EU Countries in Crisis: Close and Distant Readings of UK News Articles Using Word Embeddings." in *Multimodal Approaches to Media Discourses: Reconstructing the Age of Austerity in the United Kingdom*. edited by T. Griebel, S. Evert, & P. Heinrich. New York, NY: Routledge. ([link](#))

Conference Presentations

Boutyline, Andrei., **Cornell, Devin J. (presenter)**, Arseniev-Koehler, Alina. 2021. "All Roads Lead to Polenta: Cultural Attractors at the Junction of Public and Personal Culture." *American Sociological Association Annual Conference. Roundtable on Culture and Cognition*. August 5-9, 2021.

Cornell, Devin J. 2018. "Measuring Meaning at Scale: Computational Methods for the Semantic Construction of Austerity in the UK." *American Sociological Association Annual Conference. Computational Social Science, Culture, and Cultural Analysis*. August 11-14, 2018.

Cornell, Devin J. 2018. "Institutions, Cognition, and Discursive Fields in Colombian Politics." *Sunbelt. Social Networks and Political Participation*. June 26-July 1, 2018.

Fisher, Jacob T., **Cornell, Devin J.**, Hopp, Frederic R., Weber, Rene. 2018. "But How are They Talked About?: A Novel Measure of Entity Framing in Online News." *International Communications Association Annual Conference*. May 24-28, 2018.

Cornell, Devin J. 2018. "Discursive Fields on Twitter in the Colombian Right." *Pacific Sociological Association Annual Conference. Politics and State (Political Sociology)*. March 28-31, 2018.

Cornell, Devin J. 2018. "Dual Process Theory and Political Culture." *Pacific Sociological Association Annual Conference. Theory*. March 28-31, 2018.

Invited Talks & Workshops

Fellow at the *Diverse Intelligences Summer Institute* funded by the John Templeton Foundation at University of St Andrews, Scotland (online). August 2020.

Fellow at the *Multimodal Rhetoric in Online Media Communications Workshop* at the ZiF Center for Interdisciplinary Research at Bielefeld University, Germany (online). May 2020.

Workshop Instructor for *Introduction to Social Network Analysis* for The Center for Information Technology and Society at University of California Santa Barbara. March 2019.

Workshop Instructor for *Introduction to Computational Text Analysis* for the Broom Center for Demography. The University of California, Santa Barbara. March 2019.

Invited Talk “Discursive Fields and Influence in Colombian Politics.” TextXD Conference at the Berkeley Institute for Data Science. The University of California, Berkeley. December 2018.

Invited Talk “Discursive Fields and Influence in Colombian Politics.” at the CompSoc working group at the University of California, Los Angeles. December 2018.

Fellow at the *Diverse Intelligences Summer Institute* funded by the John Templeton Foundation. University of St Andrews, Scotland. August 2018.

Invited Talk “Semantic Analysis of News Texts: An Argument for a ‘Back to the Texts’ Approach.” at the TextXD Conference in the Berkeley Institute for Data Science. University of California Berkeley, December 2017.

Panelist for “The Future of Natural Language Processing.” at TextXD Conference at the Berkeley Institute for Data Science. University of California, Berkeley. December 2017.

Invited Talk. “Word Embedding for Comparative Semantic Analysis.” on Texts and Images of Austerity in Britain, Friedrich Alexander University Erlangen-Nürnberg, September 2017.

Awards and Honors

Professional Development Grant, Duke University (2021): Alqabandi, Fatima, Varella, Gabriel, Cornell, Devin J. *Diverse Voices in Computational Social Science*.

PhD Lab Fellow, Franklin Digital Humanities Institute at Duke University (2020): Project: Computational Methods for Analysis and Visualization of Institutional Discursive Fields.

Instructional Development Grant, UC Santa Barbara (2018): Mohr, John M., Cornell, Devin J. 2018. Integration of Computational Methods in Sociology Curriculum.

Top Student Paper, National Communications Association Annual Meeting (2016): Hopp, Frederic R., Jacob T. Fisher, and **Devin J. Cornell**, Richard Huskey, and René Weber. 2020. “The Moral Foundations Dictionary for News (MFD-N): A Crowd-Sourced Moral Foundations Dictionary for the Automated Analysis of News Corpora.”

Top Student Contribution, Networks in a Global World (NetGlo) Conference: *Institutions, Cognition, and Discursive Fields in Colombian Politics*. Examines the contributions of dual-process models to cultural and institutional analysis in the age of mass social media campaigns. Was not able to attend the conference.

NSF IGERT Innovation Project Grant: *Populist Culture and Discourse in the Colombian Peace Process*. Grant to explore the ways that social media has fundamentally changed strategies of populist leaders in the aftermath of the October 2, 2016 peace referendum that was rejected by popular vote. Examines Colombian “political culture” in a broader sense using a unique combination of qualitative interviews, computational text analysis of politician Tweets, and

survey analysis with quantitative methods for culture. Travelled to Colombia in Summer 2017 to conduct interviews with politicians and diplomats involved in the peace process.

NSF IGERT Fellowship in Network Science (2016): Took courses and completed modules with an interdisciplinary focus on social, biological, and complex networks. Completed projects on quantitative belief networks, US News source comparison using word2vec, text analysis of National Security Strategy documents using word embedding algorithms, and social influence network evolution.

Professional Service Positions

Lab Manager, Broom Center for Demography: organized workshops and graduate student presentations, managed physical lab space, and foster collaboration and assistance between graduate student researchers. Sept 2018-June 2019.

Teaching and Mentorship

Duke Data+ Student Mentor: mentored eight undergraduates working on projects about analyzing data and generating reports based on survey and text data in the Duke PhD alumni survey and about racialized policing in the US. May-July 2022.

Duke Teaching Assistant, Data Science and Society: developed student homework assignments to teach data science concepts and techniques in R with Christopher Bail. Fall 2020, Spring 2021, Spring 2022. ([course website](#))

UCSB Computational Text Analysis Undergraduate Teaching Pilot Program Manager: worked with Prof. John Mohr to develop a short project teaching students computational text analysis in a sociological power course. Nov-Dec 2017.

UCSB IGERT Network Science Summer Program Mentor: helped an undergraduate student analyze text corpus of New York Times articles about news articles about Betsy DeVos using topic modeling to understand media gender bias. June-July 2017.

UCSB Undergraduate Independent Study Mentor: worked with an undergraduate student for an independent study analyzing US National Security Strategy documents using word embedding algorithms. March-May 2017.

UCSB Data Science Club Mentor: work with multiple undergraduates in statistics, computer science, and physics to design and implement text analysis projects using various data sources: New York Times headlines 1851-2017, and NYT news articles about hurricanes in Puerto Rico and Florida. Jan-Dec 2017.

Courses as Teaching Assistant: Introduction to Sociology, Statistics for the Social Sciences, Sociology Methods. Jan 2017-Jun 2018.

Engineering Research and Work Experience

- Washington, DC Internship - Institute for Electrical and Electronics Engineering
Jun 15-Jul 15 **Washington Internship for Students of Engineering**
- Performed interviews and archival research to investigate policy recommendations for USAID operating procedures.
- Paper:** Cornell, Devin. J. 2015. "A System for Change : USAID Critical Process Improvements." WISE Journal of Public Policy, 19. ([summary](#)/[paper](#))
- Albuquerque, NM Internship - Sandia National Laboratories
Jan 16-Aug 16 **Computational Sensing and Satellite Systems**
- Programmed machine learning algorithms into embedded sensing platforms
 - Developed embedded drivers to support satellite orienting software
 - Architected digital data acquisition and processing platforms
- Aug 14-May 15 Research - **Brain-Computer Interfaces Using Electroencephalography**
- Studied potential of using EEG to control computer interfaces with thought
 - Applied machine learning techniques and nonlinear system modeling
 - Investigated related neuroscience to understand limitations and possibilities
- Aug 11-Jul 14 Research - **Active Compression-Decompression CPR for Long Term Space Travel**
- Designed and tested zero gravity experiment aboard NASA "Vomit Comet"
 - Used MATLAB to process sensor signal data and do quantitative analysis
 - Created outreach program affecting over one thousand students each year
- Albuquerque, NM Internships - Sandia National Laboratories
Jun 14-Aug 14 **Instrumentation Technologies**
May 13-Dec 13
- Investigated methods of data analysis for earth penetrator research
 - Developed field support software for earth penetrator research
 - Implemented software to support hardware instrument verification
 - Designed PCB for Low Voltage Differential Signaling characterization
- Huntsville, AL Internships - Adtran, Inc.
Jan 13-May 13 **Ethernet Access Devices / Systems Engineering**
May 12-Aug 12
- Worked with Agile product team on Layer 2 Ethernet Access Devices
 - Used embedded C and C++ to extend features of SSH remote log-in
 - Performed unit testing of product code for new features