Devin J. Cornell

Sociology Ph.D. Student
Duke University

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Education

2024 (expected)	Ph.D.	**Sociology**, Duke University.
2019	M.A.	**Sociology**, UC, Santa Barbara. Thesis: *Discursive Fields and Influence in Colombian Politics*. Committee: John W. Mohr, Maria Charles, Verta Taylor.
2015	B.S.	**Electrical Engineering**, Missouri University of Science and Technology. Minor in mathematics and emphasis on signal processing and machine learning.

Research Interests: sociology of culture, computational sociology, policy, politics, network analysis, quantitative analysis.

Affiliations: Duke Network Analysis Center, PhD Lab in the Digital Humanities Institute

Publications - Journal and Conference Articles

Cornell, Devin J. (2019). *Discursive Fields and Influence in Colombian Politics*. MA Thesis, University of California, Santa Barbara.

Hopp, Frederic R., Cornell., Devin J., Fisher, Jacob T., Huskey, Richard, Weber, René. (2018). The Moral Foundations Dictionary for News (MFD-N): A Crowd-Sourced Moral Foundations Dictionary for the Automated Analysis of News Corpora. *National Communications Association Annual Meeting*.

Voth-Gaeddert, L. E., Stoker, M., Cornell, D. J., & Oerther, D. B. (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.

Voth-gaeddert, L., & Cornell, D. J. (2016). Improving Health Information Systems in Guatemala Using Weighted Correlation Network Analysis. In *Global Humanitarian Technology Conference*.

Cornell, D. J. (2015). A System for Change : USAID Critical Process Improvements Executive Summary. *WISE Journal of Public Policy*, *19*.

Working Papers

Cornell, Devin J., Mohr, John W. (2019). Measuring Meaning at Scale: Computational Methods for Semantic Construction of Austerity in the UK. *Working paper.*

Hopp, Frederic R., Fisher, Jacob T., Cornell., Devin J., Huskey, Richard, Weber, René. (2019). The Moral Foundations Dictionary for News (MFD-N): Development and Validation of a Crowd-Sourced Moral Foundations Dictionary for the Automated Extraction of Moral Intuition from Textual Corpora. *Working Paper*.

Conference Presentations

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 (forthcoming).

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 (forthcoming).

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

Workshop instructor for *Introduction to Social Network Analysis* for The Center For Information Technology and Society at *The University of California, Santa Barbara*.

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

“Discursive Fields and Influence in Colombian Politics.” Invited talk at TextXD conference at *The University of California, Berkeley.* Dec 6-7, 2018.

“Discursive Fields and Influence in Colombian Politics.” Invited talk at *The University of California, Los Angeles.* Dec 5, 2018.

Workshop Participant in *Diverse Intelligences Summer Institute.* University of St Andrews, Scotland July 29-August 12, 2018.

“Semantic Analysis of News Texts: An Argument for a ‘Back to the Texts’ Approach." Invited talk at *TextXD Conference Berkeley Institute for Data Science*. University of California, Berkeley, Nov 30-Dec 1, 2017.

"The Future of Natural Language Processing." Panelist at *TextXD Conference.* Berkeley Institute for Data Science University of California, Berkeley, Nov 30-Dec 1, 2017.

"Word Embedding for Comparative Semantic Analysis." *Workshop on Texts and Images of Austerity in Britain*, Friedrich Alexander University Erlangen-Nürnberg, Sept 25-29, 2017.

Awards and Honors

PhD Lab Fellow, Digital Humanities Institute Duke University: Computational Methods for Analysis and Visualization of Institutional Discursive Fields.

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

Top Student Paper, Mass Communications Division of the National Communications Association Annual Meeting: Hopp, Frederic R., Cornell, Devin J., Fisher, Jacob T., Huskey, Richard, Weber, René. (2018). 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: *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 conference.

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.

IGERT Fellowship in Network Science: 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, manage physical lab space, and foster collaboration and assistance between graduate student researchers. Sept 2018-June 2019.

Teaching and Mentorship

UCSB Computational Text Analysis Undergraduate Teaching Pilot Program Manager: worked with Prof. John Mohr to develop 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 2017 - current.

Previous Engineering Research and Work Experience

Albuquerque, NM
Jan 16-Aug 16

Internship - Sandia National Laboratories
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
Jun 14-Aug 14
May 13-Dec 13

Internships - Sandia National Laboratories
Instrumentation Technologies

- 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
Jan 13-May 13
May 12-Aug 12

Internships - Adtran, Inc.
Ethernet Access Devices / Systems Engineering

- 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