

# Ryan J. Gallagher

COMPUTATIONAL SOCIAL SCIENCE || NETWORK SCIENCE || MACHINE LEARNING || SOCIAL MEDIA || COMMUNICATION  
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## Education

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### Northeastern University

Boston, MA

PH.D. NETWORK SCIENCE, *Outstanding Graduate Student Award in Research*

Sep. 2017–Aug. 2022

**Committee:** Brooke Foucault Welles, David Lazer, David Smith, Sandra González-Bailón

### University of Vermont

Burlington, VT

M.S. MATHEMATICS, *Outstanding Masters Thesis Honorable Mention*

Aug. 2015–May 2017

**Advisors:** Christopher M. Danforth, Peter Sheridan Dodds

**Graduate Certificate:** Complex Systems

### University of Connecticut

Storrs, CT

B.A. MATHEMATICS, *Summa Cum Laude*

Aug. 2011–May 2015

**Minor:** Statistics

## Professional Appointments

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### Data Scientist

Boston, MA (Remote)

ALETHEA

Jan. 2023–PRESENT

### Data Scientist

Boston, MA (Remote)

DATA SCIENCE - APPLIED SCIENCES, TWITTER

May 2022–Nov. 2022

### Research Assistant

Boston, MA

NETWORK SCIENCE INSTITUTE, NORTHEASTERN UNIVERSITY

Aug. 2017–Aug. 2022

### Graduate Student Affiliate

Remote

CENTER FOR INFORMATION, TECHNOLOGY, AND PUBLIC LIFE, UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Aug. 2021–Jan. 20202

### Core Data Science Intern

Menlo Park, CA

CORE DATA SCIENCE, FACEBOOK

Sep. 2019–Nov. 2019

### Visiting Research Assistant

Los Angeles, CA

INFORMATION SCIENCES INSTITUTE, UNIVERSITY OF SOUTHERN CALIFORNIA

Jun. 2016/2017–Aug. 2016/2017

### Research Assistant

Burlington, VT

VERMONT COMPLEX SYSTEMS CENTER, UNIVERSITY OF VERMONT

Aug. 2015–Aug. 2017

## Publications

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### PEER-REVIEWED ARTICLES

#### Say Their Names: Resurgence in Collective Attention Toward Black Victims of Fatal Police Violence Following the Death of George Floyd

HENRY WU, RYAN J. GALLAGHER, THAYER ALSHAABI, JANE L. ADAMS, JOSH R. MINOT, MICHAEL V. ARNOLD, BROOKE FOUCAULT WELLES, RANDALL HARP, PETER SHERIDAN DODDS, CHRISTOPHER M. DANFORTH. (2022). *PLoS ONE*.

#### (Mis)alignment Between Stances Expressed in Social Media Data and Public Opinion Surveys

KENNETH JOSEPH, SARAH SHUGARS, RYAN J. GALLAGHER, JON GREEN, ALEXI QUINTANA MATHÉ, DAVID LAZER. (2021). IN PROCEEDINGS OF *The 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.

#### Sustained Online Amplification of COVID-19 Elites in the United States

RYAN J. GALLAGHER, LARISSA DOROSHENKO, SARAH SHUGARS, DAVID LAZER, BROOKE FOUCAULT WELLES. (2021). *Social Media + Society*, 7(2).

#### Pandemics, Protests, and Publics: Demographic Activity and Engagement on Twitter in 2020

SARAH SHUGARS, ADINA GITOMER, STEFAN MCCABE, RYAN J. GALLAGHER, KENNETH JOSEPH, NIR GRINBERG, LARISSA DOROSHENKO, BROOKE FOUCAULT WELLES, DAVID LAZER. (2021). *Journal of Quantitative Description: Digital Media*, 1.

## A Clarified Typology of Core-Periphery Structure in Networks

RYAN J. GALLAGHER, JEAN-GABRIEL YOUNG, BROOKE FOUCAULT WELLES. (2021). *Science Advances*, 7:EABC9800.

## Generalized Word Shift Graphs: A Method for Visualizing and Explaining Pairwise Comparisons Between Texts

RYAN J. GALLAGHER, MORGAN R. FRANK, LEWIS MITCHELL, AARON J. SCHWARTZ, ANDREW J. REAGAN, CHRISTOPHER M. DANFORTH, PETER SHERIDAN DODDS. (2021). *EPJ Data Science*, 10(4).

## Who Says What with Whom: Using Bi-Spectral Clustering to Organize and Analyze Social Media Protest Networks

KENNETH JOSEPH, RYAN J. GALLAGHER, BROOKE FOUCAULT WELLES. (2020). *Computational Communication Research*, 2(2):153-174.

## Reclaiming Stigmatized Narratives: The Networked Disclosure Landscape of #MeToo

RYAN J. GALLAGHER, ELIZABETH STOWELL, ANDREA G. PARKER, BROOKE FOUCAULT WELLES. (2019). *Proceedings of the ACM: Human-Computer Interaction (PACM: HCI)*, 3(CSCW). **BEST PAPER HONORABLE MENTION AWARD AND FRANK PRIZE IN PUBLIC INTEREST COMMUNICATIONS FINALIST.**

## Divergent Discourse Between Protests and Counter-Protests: #BlackLivesMatter and #AllLivesMatter

RYAN J. GALLAGHER, ANDREW J. REAGAN, CHRISTOPHER M. DANFORTH, PETER SHERIDAN DODDS. (2018). *PLOS One*, 13(4):E0195644.

## Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge

RYAN J. GALLAGHER, KYLE REING, DAVID KALE, GREG VER STEEG. (2017). *Transactions of the Association for Computational Linguistics (TACL)*. 5:529-542.

## NON-PEER-REVIEWED REPORTS

### COVID-19 Fake News on Twitter

DAVID LAZER, DAMAIN J. RUCK, ALEXI QUINTANA, SARAH SHUGARS, KENNETH JOSEPH, NIR GRINBERG, RYAN J. GALLAGHER, LUKE HORGAN, ADINA GITOMER, ALESZU BAJAK, MATTHEW A. BAUM, KATHERINE OGNANOVA, HONG QUO, WILLIAM R. HOBBS, STEFAN MCCABE, JON GREEN. (2020). *The State of the Nation: A 50-State COVID-19 Survey* by THE COVID-19 CONSORTIUM FOR UNDERSTANDING THE PUBLIC'S POLICY PREFERENCES ACROSS STATES.

## Presentations

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### INVITED TALKS

#### The Network Structure of Online Amplification

NETWORK STRUCTURE SATELLITE SYMPOSIUM: THE CAUSES AND EFFECTS OF SOCIAL PHENOMENA, NETWORKS 2021

Online

Jun. 2021

#### Word Shift Graphs: A General Method for Visualizing and Explaining Pairwise Comparisons Between Texts

DATA STORIES 2021, CENTRAL EUROPEAN UNIVERSITY

Online

May 2021

#### The Network Structure of Online Amplification

MICHIGAN INTERACTIVE AND SOCIAL COMPUTING GROUP, SCHOOL OF INFORMATION, UNIVERSITY OF MICHIGAN

Online

Feb. 2021

#### The Network Structure of Online Amplification

COMPUTER SCIENCE SEMINAR SERIES, COMPUTER SCIENCE DEPARTMENT, UNION COLLEGE

Online

Feb. 2021

#### Word Shift Graphs: A General Method for Visualizing and Explaining Pairwise Comparisons Between Texts

STORY TIME, COMPUTATIONAL STORY LAB, UNIVERSITY OF VERMONT

Online

Jul. 2020

#### The Topic Topology of "Slacktivist" Networks

INFORMATION, SELF-ORGANIZING DYNAMICS AND SYNCHRONIZATION ON NETWORKS SATELLITE SYMPOSIUM, NETSCI 2017

Indianapolis, IN

Jun. 2017

### PANELS

#### Emerging Digital Data Tools

THE DIGITAL DATA CONFERENCE (D2C)

Online

Apr. 2022

#### Creating Open Source Software as Part of an Academic Career

SUMMER INSTITUTE IN COMPUTATIONAL SOCIAL SCIENCE (SICSS) FESTIVAL

Online

Jun. 2020

### CONTRIBUTED TALKS

#### Charting Network Maps of Discursive Terrains: How to Triangulate Information Pollution and Fractured Ecologies Online

NETWORKS 2021 (JOINT NETSCI AND SUNBELT CONFERENCE)

Online

Jul. 2021

<b>Reclaiming Stigmatized Narratives: The Networked Disclosure Landscape of #MeToo</b> INTERNATIONAL CONFERENCE ON COMPUTATIONAL SOCIAL SCIENCE (IC2S2) 2020, MIT	Online Jul. 2020
<b>Diversity of Core-Periphery Structure in Real Networks</b> THIRD NORTHEAST REGIONAL CONFERENCE ON COMPLEX SYSTEMS (NERCCS) 2020	Online Apr. 2020
<b>Core-Periphery Decomposition of Online Social Protest Networks</b> SUNBELT 2019	Montreal, QC Jun. 2019
<b>The Networked Disclosure Landscape of #MeToo</b> NETSCI 2019, UNIVERSITY OF VERMONT	Burlington, VT May 2019
<b>Mischaracterization of Core-Periphery Structure in Complex Networks</b> NETSCI 2019, UNIVERSITY OF VERMONT	Burlington, VT May 2019
<b>Core-Periphery Decomposition of Networked Publics and Counterpublics</b> 69TH ANNUAL INTERNATIONAL COMMUNICATION ASSOCIATION (ICA) CONFERENCE	Washington D.C. May 2019
<b>Word Shift: A General Method for Visualizing and Explaining Pairwise Comparisons Between Texts</b> TEXT AS DATA 2018, UNIVERSITY OF WASHINGTON	Seattle, WA Sep. 2018
<b>Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge</b> NORTH AMERICAN CHAPTER OF THE ASSOCIATION FOR COMPUTATIONAL LINGUISTICS (NAACL) 2018	New Orleans, LA Jun. 2018
<b>Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge</b> TEXT AS DATA 2017, PRINCETON UNIVERSITY	Princeton, NJ Oct. 2017

## Honors & Awards

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### HONORS

2022 <b>Twitter Developer Insider</b> , Twitter	San Francisco, CA
2021 <b>Graduate Student Affiliate</b> , Center for Information, Technology, and Public Life (CITAP)	Chapel Hill, NC
2018 <b>Invited Participant</b> , Complex Networks Winter Workshop (CNWW)	Québec City, QC
2018 <b>Invited Participant</b> , Summer Institute in Computational Social Science (SICSS), Duke University	Durham, NC
2015 <b>Honorary Inductee</b> , Pi Mu Epsilon Mathematics Honor Society, University of Connecticut	Storrs, CT

### AWARDS

2022 <b>Outstanding Graduate Student Award in Research</b> , Northeastern University	Boston, MA
2021 <b>frank Prize in Public Interest Communications</b> , Center for Public Interest Communications	Gainesville, FL
2019 <b>Best Paper Honorable Mention</b> , CSCW 2019, Association for Computing Machinery (ACM)	Austin, TX
2017 <b>Outstanding Masters Thesis Honorable Mention</b> , University of Vermont	Burlington, VT
2015 <b>Outstanding Presentation Award</b> , Mathematical Association of America, Joint Math Meeting 2015	San Antonio, TX

### SCHOLARSHIPS

2017 <b>Nam Sang Kil Scholarship in Mathematics</b> , Department of Mathematics, University of Vermont	Burlington, VT
2014 <b>Bernard Sippin '52 Scholarship</b> , Department of Mathematics, University of Connecticut	Storrs, CT
2014 <b>Orange Scholarship</b> , The Homer Fund, Home Depot	Storrs, CT

## Professional Service

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### OPEN SOURCE SOFTWARE

<b>Core Developer</b> FOCALEVENTS: PYTHON, GITHUB.COM/RYANJGALLAGHER/FOCALEVENTS	Boston, MA Aug. 2021–PRESENT
<b>Core Developer</b> WORD SHIFTERATOR: PYTHON, GITHUB.COM/RYANJGALLAGHER/SHIFTERATOR	Boston, MA May 2018–PRESENT
<b>Core Developer</b> ANCHORED COREX TOPIC MODEL: PYTHON, GITHUB.COM/GREGVERSTEEG/COREX_TOPIC	Los Angeles, CA Jun. 2017–PRESENT

### CONFERENCES, INSTITUTES, AND WORKSHOPS

<b>Founder and Co-Organizer</b> NETWORKED JUSTICE SATELLITE SYMPOSIUM, NETWORKS 2021	Online Dec. 2020–Jul. 2021
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## Co-Organizer

SUMMER INSTITUTE IN COMPUTATIONAL SOCIAL SCIENCE (SICSS) 2019 PARTNER SITE

Boston, MA

Jun. 2018–Dec. 2019

## Co-Chair

SATELLITES, SCHOOLS, AND POSTERS, NETSCI 2019

Burlington, VT

Jun. 2018–May 2019

## Co-Organizer

WOMEN'S, GENDER, AND SEXUALITY STUDIES (WGSS) SYMPOSIUM 2019: WOMEN AND RESILIENCE

Boston, MA

Jun. 2018–Mar. 2019

## Co-Organizer

CAUCUS FOR WOMEN IN NETWORK SCIENCE (WiNS), COMPLENET 2018

Boston, MA

Jan. 2018–Mar. 2018

## DEPARTMENTAL SERVICE

### President

NETWORK SCIENCE GRADUATE STUDENT ASSOCIATION, NORTHEASTERN UNIVERSITY

Boston, MA

May 2019–PRESENT

### Graduate Student Representative

ADMISSIONS COMMITTEE, NETWORK SCIENCE PHD PROGRAM, NORTHEASTERN UNIVERSITY

Boston, MA

Jan. 2020–Apr. 2020

### Vice President

NETWORK SCIENCE GRADUATE STUDENT ASSOCIATION, NORTHEASTERN UNIVERSITY

Boston, MA

May 2018–May 2019

### Organizer

NETWORK SCIENCE INSTITUTE JOURNAL CLUB, NORTHEASTERN UNIVERSITY

Boston, MA

Jan. 2018–Dec. 2018

## PROFESSIONAL ORGANIZATIONS

NetSci **Network Science Society**

2017–PRESENT

ICA **International Communication Association**

2018–PRESENT

AoIR **Association of Internet Researchers**

2020–PRESENT

ACM **Association for Computing Machinery**

2020–PRESENT

## JOURNAL PEER REVIEW

NEW MEDIA & SOCIETY

SOCIAL MEDIA + SOCIETY

THE INTERNATIONAL JOURNAL OF PRESS/POLITICS

NATURE COMMUNICATIONS

TRANSACTIONS OF CHI

AMERICAN SOCIOLOGICAL REVIEW

MOBILIZATION

JOURNAL OF COMPLEX NETWORKS

SIGNS: JOURNAL OF WOMEN IN CULTURE AND SOCIETY

PLOS ONE

SOCIUS

## CONFERENCE PEER REVIEW

INTERNATIONAL COMMUNICATION ASSOCIATION (ICA)

INTERNATIONAL AAAI CONF. ON WEB AND SOCIAL MEDIA (ICWSM)

ACM CONF. ON HUMAN FACTORS IN COMPUTING SYSTEMS (CHI)

ACM CONF. ON COMPUTER-SUPPORTED COOPERATIVE WORK (CSCW)

ACM WEB SCIENCE CONFERENCE (WebSci)

## Teaching

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### INSTRUCTION

#### Data Science for the Social Sciences

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES, NORTHEASTERN UNIVERSITY

Boston, MA

Sep. 2021–Dec. 2021

Fall 2021 (Instructor of record)

#### Summer Institute in Computational Social Science Boston Partner Site

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

Jun. 2018

Summer 2019

#### Fundamentals of Calculus I

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

Burlington, VT

Aug. 2016–Dec. 2016

Fall 2016 (Instructor of record)

#### Applications of Finite Math

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

Burlington, VT

Aug. 2015–May 2015

Fall 2015, Spring 2016 (Instructor of record)

## GUEST LECTURES

### **Mesoscale Network Structures of Online Activism**

MACHINE LEARNING AND SOCIETY, UNIVERSITY AT BUFFALO

Class of Kenneth Joseph, Spring 2021

*Online*

*Apr. 2021*

### **Comparing Text as Data with Word Shift Graphs**

PRINCIPLES OF COMPLEX SYSTEMS VOL. 2, UNIVERSITY OF VERMONT

Class of Peter Dodds, Spring 2021

*Online*

*Apr. 2021*

### **Mesoscale Network Structures of Online Activism**

COMMUNICATION AND SOCIAL NETWORKS, PURDUE UNIVERSITY

Class of Jeremy Foote, Spring 2021

*Online*

*Mar. 2021*

### **Text as Data and Sentiment Analysis**

TURNING DATA INTO INSIGHT AND STORIES, PURDUE UNIVERSITY

Class of Jeremy Foote, Spring 2021

*Online*

*Mar. 2021*

### **Text as Data and Sentiment Analysis**

QUANTITATIVE TEXT ANALYSIS, UNIVERSITY COLLEGE DUBLIN

Class of Martijn Schoonvelde, Spring 2021

*Online*

*Mar. 2021*

### **Text as Data and Computational Grounded Theory**

INTRODUCTION TO QUALITATIVE METHODS, SCIENCES PO PARIS

Class of Jen Schradie, Spring 2021

*Online*

*Mar. 2021*

### **Mesoscale Network Structure and Stochastic Block Models**

STRUCTURE AND DYNAMICS OF COMPLEX NETWORKS, CENTRAL EUROPEAN UNIVERSITY

Class of Federico Battiston, Spring 2021

*Online*

*Jan. 2021*

### **Mesoscale Network Structure and Stochastic Block Models**

NETWORK SCIENCE & ANALYSIS, UNIVERSITY OF PITTSBURGH

Class of Morgan Frank, Fall 2020

*Online*

*Oct. 2020*

### **Research Ethics and Network Science**

NETWORK SCIENCE INSTITUTE GRADUATE STUDENT BOOTCAMP 2019, NORTHEASTERN UNIVERSITY

Organized by the Network Science Institute GSA, Fall 2020

*Online*

*Aug. 2020*

## TEACHING ASSISTANCE

### **Social Networks**

COMMUNICATION STUDIES DEPARTMENT, NORTHEASTERN UNIVERSITY

Class of Brooke Foucault Welles, Spring 2020

*Boston, MA*

*Jan. 2020–May 2020*

### **Principles of Complex Systems**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

Class of Peter Dodds, Fall 2016

*Burlington, VT*

*Aug. 2016–Dec. 2016*