

# Ryan J. Gallagher

NETWORK SCIENCE PH.D. STUDENT MERGING TEXT AND NETWORKS FOR COMPUTATIONAL SOCIAL SCIENCE  
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## Education

### Northeastern University

PH.D. NETWORK SCIENCE

Advisor: Prof. Brooke Foucault Welles

Boston, MA

Sep. 2017 – PRESENT

### University of Vermont

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

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

Graduate Certificate: Complex Systems

Burlington, VT

Aug. 2015 – May 2017

### University of Connecticut

B.A. MATHEMATICS, *Summa Cum Laude*

Minor: Statistics

Storrs, CT

Aug. 2011 – May 2015

## Experience

### Research Assistant

NETWORK SCIENCE INSTITUTE, NORTHEASTERN UNIVERSITY

Boston, MA

Aug. 2017 – PRESENT

### Core Data Science Intern

CORE DATA SCIENCE, FACEBOOK

Menlo Park, CA

Sep. 2019–Nov. 2019

### Visiting Research Assistant

INFORMATION SCIENCES INSTITUTE, UNIVERSITY OF SOUTHERN CALIFORNIA

Los Angeles, CA

Jun. 2016/2017 – Aug. 2016/2017

### Research Assistant

VERMONT COMPLEX SYSTEMS CENTER, UNIVERSITY OF VERMONT

Burlington, VT

Aug. 2015 – Aug. 2017

## Publications

### PREPRINTS

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

RYAN J. GALLAGHER, LARISSA DOROSHENKO, SARAH SHUGARS, DAVID LAZER, BROOKE FOUCAULT WELLES. ARXIV PREPRINT 2009.07255, 2020. UNDER REVIEW AT *ICWSM*.

#### 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. ARXIV PREPRINT 2008.02250, 2020. UNDER REVIEW AT *EPJ Data Science*.

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

RYAN J. GALLAGHER, JEAN-GABRIEL YOUNG, BROOKE FOUCAULT WELLES. ARXIV PREPRINT 2005.10191, 2020. UNDER REVIEW AT *Science Advances*.

### JOURNAL ARTICLES

#### 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. *Computational Communication Research*, 2(2):153-174, 2020.

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

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

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

RYAN J. GALLAGHER, ANDREW J. REAGAN, CHRISTOPHER M. DANFORTH, PETER SHREIDAN DODDS. *PLoS ONE*, 13(4):E0195644, 2018.

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

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

## Research Funding

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### Measuring Affective Dynamics in Polarized Publics and Counterpublics

\$1,580

Co-PI, NORTHEASTERN UNIVERSITY LAB FOR TEXT, MAPS, AND NETWORKS SEEDLING GRANT

Nov. 2019

## Presentations

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### TALKS

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

Burlington, VT

STORY TIME, COMPUTATIONAL STORY LAB, UNIVERSITY OF VERMONT

Jul. 2020

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

Cambridge, MA

INTERNATIONAL CONFERENCE ON COMPUTATIONAL SOCIAL SCIENCE (IC2S2) 2020, MIT

Jul. 2020

#### Diversity of Core-Periphery Structure in Real Networks

Buffalo, NY

THIRD NORTHEAST REGIONAL CONFERENCE ON COMPLEX SYSTEMS (NERCCS) 2020

Apr. 2020

#### Core-Periphery Decomposition of Online Social Protest Networks

Montreal, QC

SUNBELT 2019

Jun. 2019

#### The Networked Disclosure Landscape of #MeToo

Burlington, VT

NETSCI 2019, UNIVERSITY OF VERMONT

May 2019

#### Mischaracterization of Core-Periphery Structure in Complex Networks

Burlington, VT

NETSCI 2019, UNIVERSITY OF VERMONT

May 2019

#### Core-Periphery Decomposition of Networked Publics and Counterpublics

Washington D.C.

69TH ANNUAL INTERNATIONAL COMMUNICATION ASSOCIATION (ICA) CONFERENCE

May 2019

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

Seattle, WA

TEXT AS DATA 2018, UNIVERSITY OF WASHINGTON

Sep. 2018

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

New Orleans, LA

NORTH AMERICAN CHAPTER OF THE ASSOCIATION FOR COMPUTATIONAL LINGUISTICS (NAACL) 2018

Jun. 2018

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

Princeton, NJ

TEXT AS DATA 2017, PRINCETON UNIVERSITY

Oct. 2017

#### The Topic Topology of “Slacktivist” Networks

Indianapolis, IN

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

Jun. 2017

## Honors & Awards

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### HONORS

2019 **Invited Participant**, 1 Year Until 2020: US Election Research Workshop, Facebook

Menlo Park, CA

2018 **Invited Participant**, Complex Networks Winter Workshop (CNWW)

Québec City, QC

2018 **Invited Participant**, Summer Institute in Computational Social Science (SICSS), Duke University

Durham, NC

2017 **Outstanding Masters Thesis Honorable Mention**, University of Vermont

Burlington, VT

2015 **Honorary Inductee**, Pi Mu Epsilon Mathematics Honor Society, University of Connecticut

Storrs, CT

### AWARDS

2019	<b>Best Paper Honorable Mention</b> , CSCW 2019, Association for Computing Machinery (ACM)	Austin, TX
2019	<b>NULab Travel Grant</b> , NULab for Texts, Maps, and Networks, Northeastern University	Boston, MA
2019	<b>NetSI Travel Grant</b> , Network Science Institute, Northeastern University	Boston, MA
2018	<b>NetSI Travel Grant</b> , Network Science Institute, Northeastern University	Boston, MA
2017	<b>SYNS Travel Grant</b> , Society of Young Network Scientists, NetSci 2017	Indianapolis, IN
2015	<b>Outstanding Presentation Award</b> , Mathematical Association of America, Joint Math Meeting 2015	San Antonio, TX
2015	<b>MAA Travel Grant</b> , Mathematical Association of America, Joint Math Meeting 2015	San Antonio, TX
2014	<b>MAA Travel Grant</b> , Mathematical Association of America, Joint Math Meeting 2014	Baltimore, MD

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

### CONFERENCES, INSTITUTES, AND WORKSHOPS

<b>Program Committee</b>		Southampton, UK
12TH AMC CONFERENCE ON WEB SCIENCE 2020 (WebSci)		Dec. 2019 – Jul. 2020
<b>Co-Organizer</b>		Boston, MA
SUMMER INSTITUTE IN COMPUTATIONAL SOCIAL SCIENCE (SICSS) 2019 PARTNER SITE		Jun. 2018 – Dec. 2019
<b>Co-Chair</b>		Burlington, VT
SATELLITES, SCHOOLS, AND POSTERS, NETSCI 2019		Jun. 2018 – May 2019
<b>Co-Organizer</b>		Boston, MA
WOMEN'S, GENDER, AND SEXUALITY STUDIES (WGSS) SYMPOSIUM 2019: WOMEN AND RESILIENCE		Jun. 2018 – Mar. 2019
<b>Co-Organizer</b>		Boston, MA
CAUCUS FOR WOMEN IN NETWORK SCIENCE (WINS), COMPLENET 2018		Jan. 2018 – Mar. 2018

### DEPARTMENTAL SERVICE

<b>President</b>		Boston, MA
NETWORK SCIENCE GRADUATE STUDENT ASSOCIATION, NORTHEASTERN UNIVERSITY		May 2019 – PRESENT
<b>Graduate Student Representative</b>		Boston, MA
ADMISSIONS COMMITTEE, NETWORK SCIENCE PHD PROGRAM, NORTHEASTERN UNIVERSITY		Jan. 2020 – Apr. 2020
<b>Vice President</b>		Boston, MA
NETWORK SCIENCE GRADUATE STUDENT ASSOCIATION, NORTHEASTERN UNIVERSITY		May 2018 – May 2019
<b>Organizer</b>		Boston, MA
NETWORK SCIENCE INSTITUTE JOURNAL CLUB, NORTHEASTERN UNIVERSITY		Jan. 2018 – Dec. 2018

### JOURNAL PEER REVIEW

NEW MEDIA & SOCIETY	SOCIAL MEDIA + SOCIETY	TRANSACTIONS OF CHI (TOCHI)
MOBILIZATION	AMERICAN SOCIOLOGICAL REVIEW	SIGNS: JOURNAL OF WOMEN IN CULTURE AND SOCIETY
JOURNAL OF COMPLEX NETWORKS	PLOS ONE	SOCIUS

### CONFERENCE PEER REVIEW

INTERNATIONAL COMMUNICATION ASSOCIATION (ICA)	INT. CONF. ON WEB AND SOCIAL MEDIA (ICWSM)	WebSci
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# Teaching

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## INSTRUCTION

### **MATH 19 Fundamentals of Calculus I**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT  
Fall 2016

*Burlington, VT  
Aug. 2016 – Dec. 2016*

### **MATH 17 Applications of Finite Math**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT  
Fall 2015, Spring 2016

*Burlington, VT  
Aug. 2015 – May 2015*

## INVITED LECTURES

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

INFSCI 2125, UNIVERSITY OF PITTSBURGH  
Class of Dr. Morgan Frank, Fall 2020

*Pittsburgh, PA  
Oct. 2020*

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

NETWORK SCIENCE INSTITUTE GRADUATE STUDENT BOOTCAMP 2019, NORTHEASTERN UNIVERSITY  
Organized by the Network Science Institute, Fall 2020

*Boston, MA  
Aug. 2019*

## TEACHING ASSISTANCE

### **COMM 2105 Social Networks**

COMMUNICATION STUDIES DEPARTMENT, NORTHEASTERN UNIVERSITY  
Class of Prof. Brooke Foucault Welles, Spring 2020

*Northeastern, MA  
Jan. 2020 – May 2020*

### **CSYS 300 Principles of Complex Systems**

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT  
Class of Prof. Peter Dodds, Fall 2016

*Burlington, VT  
Aug. 2016 – Dec. 2016*