



# SONIC Data Science Internship Opportunities Winter 2022-2023

**Course Credit:**

Research Practicum registration #: 389 (COMM\_ST)

Independent Study registration #: 399-0 (IEMS), 399-0 (CS) and 499-0 (CS)

**Duration:**

Winter Quarter 2022-23 (with the possibility to continue)

**Location:**

In person or Remote

**Organization Overview:**

The Science of Networks in Communities (SONIC) research group advances social network theory and methodology through the development of cutting-edge techniques to understand and enable networks in diverse communities. For more information, please visit

<http://sonic.northwestern.edu/about>

**Internship Opportunities:**

SONIC is excited to offer the internship opportunities this quarter:

- ESM Project (details below)
- Science of Science Project (details below)

**Requirements:**

Data Science Internships are open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Candidates must be able to demonstrate attention to detail, proficient writing/communication skills, analytic thinking, and emphasis on deadlines. Candidates must commit to attend weekly lab meetings in-person or virtual (Tuesdays, 11:30-12:30). Many projects require candidates to have at least basic knowledge of programming or statistical software. For project specific requirements and preferences, see descriptions below.

**Application Instructions:**

For general questions about the internship and the SONIC research group, please complete this [Google form](#) and contact Dorothea Boyle, at [dorothea.boyle@northwestern.edu](mailto:dorothea.boyle@northwestern.edu) for questions.



# RESEARCH OPPORTUNITY: ESM Project

## Organization Overview:

The Science of Networks in Communities (SONIC) research group advances social network theory and methodology through the development of cutting-edge techniques to understand and enable networks in diverse communities. For more information, please visit:

<http://sonic.northwestern.edu/about>.

## Description:

This project aims to understand how communication technologies enable collaboration during the sudden workplace disruption caused by COVID-19. Intern responsibilities include:

- data cleaning of digital traces
- implement statistical models to understand how relational networks and communication patterns among employees evolve during the pandemic

## Required Qualifications:

This position is open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Interest in communication and relationship networks within organizations

Departments: MMSS, IEMS, Comm, Math, Stats, CS or other departments

Education level: Undergraduates or Graduates

## Preferred Qualifications:

- 1) Interest in writing research papers.
- 2) Proficient in R, Jupyter notebook
- 3) Prior experience in social network analysis (e.g., ERGMs, SAOM, ALAAM) is strongly preferred

## Application Instructions:

Please complete this [Google form](#) and send a resume and brief cover letter describing your interest in the position to Jasmine Wu ([jasminewu@u.northwestern.edu](mailto:jasminewu@u.northwestern.edu)).



# RESEARCH OPPORTUNITY: Science of Science

## Organization Overview:

The Science of Networks in Communities (SONIC) research group advances social network theory and methodology through the development of cutting-edge techniques to understand and enable networks in diverse communities. For more information, please visit:

<http://sonic.northwestern.edu/about>.

## Description:

Science of Science: Social network analysis and text analytics internship. The intern will work with a research team on:

- identifying scientists' prior collaboration networks
- decoding scientists' areas of expertise using text analytics tools for mining the text contained in scientific publications
- running social network analyses to understand the factors that determine effective scientific team assembly and collaboration

## Required Qualifications:

This position is open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Additionally, candidates must have:

- Interest in studying scientific collaboration, teams, and social network
- Interest in gaining data science experience (from data pre-processing to creation of knowledge)
- Proficiency in R, Python, and SQL
- Experience with network analysis

Departments: CS or other departments

Education level: CS Undergraduates (Senior) or CS Graduate students

## Preferred Qualifications:

Ideal candidates will have a strong interest in social science research and experience with Python, SQL, and/or the R programming language. Prior experience with research and knowledge of social network analyses and text analytics tools is preferred.

## Application Instructions:

Please complete this [Google form](#) and send resume and brief cover letter describing your interest in the position to Jasmine Wu ([jasminewu@u.northwestern.edu](mailto:jasminewu@u.northwestern.edu)).