SONIC Data Science Internship Opportunities Spring 2023

Course Credit:
Research Practicum registration #: 389 (COMM_ST)
Independent Study registration #: 399-0 (IEMS), 399-0 (CS) and 499-0 (CS)

Duration:
Spring Quarter 2023 (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 Lab is excited to offer the internship opportunities this quarter:

- Science of Science (details below)
- Social Networks Analysis (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 (Thursdays, 12-1:00). 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 for questions.

SONIC
advancing the science of networks in communities

RESEARCH OPPORTUNITY: Science of Science 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:
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 Python, and SQL
- Experience with basic NLP and network analysis

Departments: CS
Education level: 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 in using text analytics tools and social network analyses 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) and Alina Lungeanu (alina.lungeanu1@northwestern.edu)

SONIC
advancing the
science of networks in communities

RESEARCH OPPORTUNITY:
Social Networks Analysis Class

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:
Migrate descriptive social networks analysis (e.g., network density, clustering coefficient, centralities) starter codes from R to Python. Project also involves web scraping for social network data.

Required Qualifications:
This position is open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Additionally, applicants must have completed any of the following courses: IEMS 341 / COMP_SCI 396 / COMM_ST 352

Departments: CS, MMSS, IEMS, Comm, Math, Stats or other departments
Education level: Undergraduates or Graduates

Preferred Qualifications:

1) Python and R coding experience
2) interest in social networks analysis and/or developing class materials

Application Instructions:
Please complete this Google form and send a resume and brief cover letter describing your interest in the position to Megan Chan (megan.chan@u.northwestern.edu).

RESEARCH OPPORTUNITY:
Project RED – Text Analysis

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:
Develop (fine-tune, evaluate) a BERT-based text classification model using HuggingFace on a dialogue dataset to identify speech acts.

Required Qualifications:
This position is open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Additionally, this position requires experience with NLP and proficiency in Python.

Departments: CS or other departments
Education level: Undergraduates or Graduates

Preferred Qualifications:
Experience in using HuggingFace and/or BERT is helpful.

Application Instructions:
Please complete this Google form and send a resume and brief cover letter describing your interest in the position to Megan Chan (megan.chan@u.northwestern.edu).