SONIC Data Science Internship Opportunities

Course Credit:
Research Practicum registration #: 389 (COMM_ST) or
Independent Study registration #: 399-0 (IEMS)

Duration:
Fall 2019 (possibly extendable to subsequent quarters)

Location:
SONIC Lab, Frances Searle Building 1-459
2240 Campus Dr.
Evanston, IL 60208

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 5 internship opportunities this quarter:
- UX Internship
- Network Analytics Internship
- NASA Mission Data Analysis Internship
- Statistics Internship
- Experiment Coordinator

Details and descriptions for each position are below.

Requirements:
Data Science Internships are open to current undergraduates enrolled in an accredited degree-seeking program at Northwestern. Candidates must be able to demonstrate attention to detail, proficient writing/communication skills, analytic thinking, emphasis on deadlines. 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:
To apply, please send your materials to the responsible person listed in the flyers below no later than Thursday, September 26. For general questions about the internship and the SONIC research group, please contact our lab manager, Carmen Chan, at (carmen.chan@northwestern.edu). Thank you.
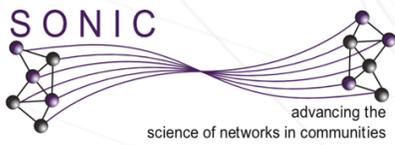
Organization Overview:

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:

The student UX intern will evaluate the usability of the MyDreamTeam platform and re-design to meet users' needs. As part of the research team, the UX intern will work on the interfaces and workflows to enhance user experience. The UX intern will conduct interviews and test the interfaces with the project's stakeholders. The final deliverable is high-fidelity screen mockups with their corresponding instructions and navigation flows.

In this role, the UX intern should be an analytical and creative designer who is able to grasp user needs and solve problems. A portfolio of successful UX and other technical projects is essential to present. Ultimately, the goal is to make our platform more user-friendly and intuitive to attract and retain potential customers.

Responsibilities

- Understand product specifications and user behaviors
- Conduct concept and usability testing and gather feedback
- Create personas through user research and data
- Define the right interaction model and evaluate its success
- Develop wireframes and mockups around customer needs
- Find creative ways to solve UX problems (e.g. usability, findability)
- Work with developers to implement attractive designs
- Communicate design ideas and mockups to developers

Requirements

- Proven experience as a UX Designer, UI Designer or similar role
- Portfolio of design projects
- Knowledge of HTML/CSS; JavaScript is a plus
- Problem-solving aptitude
- Excellent communication skills
- Majoring in Design, Computer Science, Communications, Engineering or a related field.

Application Instructions:

To apply, send a resume, portfolio, and brief cover letter describing your interest in the position to Diego Gómez-Zará (dgomezara@u.northwestern.edu) no later than Thursday, September 26, 2019.
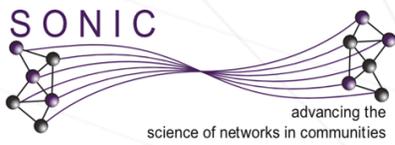
Organization Overview:
The Science of Networks in Communities (SONIC) research group advances social network theory and methodology through the development of cutting-edge techniques to understand and enable networks in diverse communities. For more information, please visit http://sonic.northwestern.edu/about.

Description:
The Network Analytics Intern will work closely with a research team that is using data from 6-DoS (https://www.youtube.com/watch?v=gR7egny0A58) to investigate how network cognition is built and used. 6-DoS is a web application based on the setup of Milgram's "six degrees of separation" experiment. 6-DoS captures information on how individuals find a relatively short path to a random target in their network and how accurately individuals use their contacts. Using data including the information, the intern will gain an opportunity to learn about the quantitative research process, and statistical analysis while examining a variety of research questions regarding network search and perception. In particular, the intern will be actively involved in the preparation and analyses of data, review of journal articles on the topics of network search and network perception and will work toward co-authoring a paper for an academic conference or journal.

Required Qualifications:
This position is open to current undergraduates enrolled in an accredited degree-seeking program at Northwestern. Candidates must be able to demonstrate close attention to detail, proficient writing/communication skills, analytic thinking, emphasis on deadlines, and the ability to collaborate on evolving projects.

Preferred Qualifications:
Ideal candidates will have a strong interest in research on social network analysis and be interested in pursuing graduate school. Candidates who previously took IEMS 341/ COMM ST 395 Social Network Analysis by Professor Noshir Contractor or plan on taking it in the 2020 Spring Quarter will be ideal. Prior experience with research, independent projects, knowledge of statistical methods, and the R programming language is highly preferred.

Application Instructions:
Please send a resume and brief cover letter describing your interest in the position to Kyosuke Tanaka (kyosuke@u.northwestern.edu).
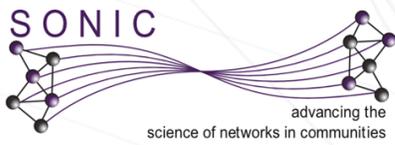
Organization Overview:
The Science of Networks in Communities (SONIC) research group advances social network theory and methodology through the development of cutting-edge techniques to understand and enable networks in diverse communities. For more information, please visit http://sonic.northwestern.edu/about.

Description:
Measuring the performance of astronauts during the missions is of great and exceptional importance and its complexity stems from the complicated operating environment within which they work. This complexity will place enormous demands on astronauts, and research is needed that develops concrete measures to diminish the risks coming from performance decrements due to inadequate cooperation, coordination, communication, and psychosocial adaptation within a team.

The intern will be involved in using optimization approach in order to develop metrics for assessing the performance of astronauts as individuals, teams and a system of teams called Mutli-team System (MTS).

Required Qualifications:
This position is open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Candidates must be able to demonstrate excellent outreach skills, close attention to detail, proficient writing/communication skills, emphasis on deadlines, and the ability to collaborate on evolving projects.

Preferred Qualifications:
Ideal candidates will have a strong interest and experience with programming languages such as Python. Prior knowledge of optimization is highly preferred.

Application Instructions:
Please send a resume and brief cover letter describing your interest in the position to Niloufar Izadinia (niloufarizadinia2020@u.northwestern.edu).
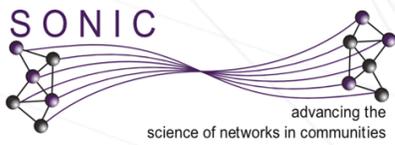
RESEARCH OPPORTUNITY:

Statistics Internship

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:
Exponential Random Graph Models (ERGMs) are prominent statistical models for social network structures. They take into account important endogenous structural effects such as network closure, degree centralization, and reciprocity, and attribute effects such as homophily, and sender and receiver effects.
Autologistic actor attribute models (ALAAMs), are a family of ERGMs which can predict actor attributes from network structure and model effects such as contagion and social influence.The intern will be involved in developing an extension of ALAAM, using statistics knowledge in order to predict a wider range of attributes.

Required Qualifications:
This position is open to current undergraduates or graduate students enrolled in an accredited degree-seeking program at Northwestern. Candidates must be able to demonstrate excellent outreach skills, close attention to detail, proficient writing/communication skills, emphasis on deadlines, and the ability to collaborate on evolving projects.

Preferred Qualifications:
Ideal candidates will have a strong interest and experience with programming languages such as R. Prior knowledge of social network analysis and/or basic statistics is highly preferred.

Application Instructions:
Please send a resume and brief cover letter describing your interest in the position to Niloufar Izadinia (niloufarizadinia2020@u.northwestern.edu).
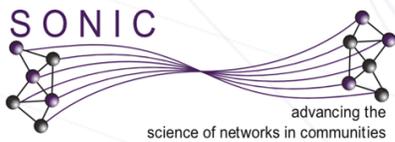
RESEARCH OPPORTUNITY: Network Experiment Coordinator

Duration:
Fall Quarter, 2019 (possibly extended to subsequent quarters)
Location:
SONIC Lab, Frances Searle Building 1-459
2240 Campus Dr.
Evanston, IL 60201

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:
The Data Analyst Intern will work closely with a researcher to investigate network characteristics of social sentinels, individuals who can accurately assess public opinion in their community. The Intern will be involved in the analysis of a unique data set that contains information on to what extent public opinion on medical methods of family planning is present in a rural Kenya community, as well as on how well individuals assess the prevalence of public believes in their community. The Intern will be working on identifying social sentinels, and then describing their network characteristics through several social networks. A successful Intern will be given the opportunity to work toward co-authoring a paper for an academic conference or journal.

Required Qualifications:
This position is open to current undergraduate students enrolled in an accredited degree-seeking program at Northwestern. Candidates must be able to demonstrate excellent data-analyst skills, experience in R, close attention to detail, proficient writing/communication skills, and the ability to collaborate on a new, evolving project. Knowledge in social network analysis is a big plus.

Preferred Qualifications:
Ideal candidates will have a strong interest in research on sociology, psychology or social network analysis and be interested in pursuing graduate school / academic career.

Application Instructions:
Please send a resume and brief cover letter describing your interest in the position to Balint Neray (balint.neray@northwestern.edu).