UNDERGRADUATE RESEARCH APPRENTICESHIP PROGRAM 2017/18

GRADUATE MENTOR PROJECT DESCRIPTIONS

Project 1
Graduate Mentor: Aseel Addawood, Informatics
Project Summary: Online information sources are gradually supplementing, or even replacing, traditional media outlets such as television, newspapers, and radio (Gaskins & Jerit, 2012). However, social media as a source of information has some drawbacks. This include the spread of false information, rumors, and fake news. That makes the gathering of accurate and credible information online very challenging, which affect people's trust of the information shared online (Loh & Venkatraman, 1992). These issues are more challenging when the point of discussion is a controversial topic such as the debate between MMR vaccinations and Autism. Moreover, the need of a credible source of information becomes much more fundamental when the topic of discussion is a health-related issue. People can decide based on a piece of advice found online, which can affect their health negatively. Therefore, it is integral to assess and understand the quality and the credibility of health-related information online, especially controversial one.
We will work mainly with social media data as Facebook and twitter. It is an interdisciplinary project including information science, psychology and computer science. Suitable candidates are preferred to be from one of these departments. The main goals of this research are to understand the factors affecting credibility of information sources shared in social media regarding controversial health topics. Also, to provide insights for researchers and developers in building more robust sociotechnical systems in identifying the credibility of an information source in social media regarding controversial health topics. The researcher will help in annotating tweets and Facebook comments beside working and learning new software's that help with collecting and analyzing social media data. Programming skills are always useful, but not essential.
Candidates learn a lot throughout the project. He/she will help in the development and implementation of the project. The student will have an insight into a graduate student life, attend meetings and learn communication skills. The undergraduate student will be informed on how research papers developed starting from ideas into actual research papers submitted into conferences or journals. One aim is to have a submitted paper by the end of the semester.

Project 2
Graduate Mentor: Dawn Brown, Counseling Psychology
Project Summary: I am currently working on two research projects, one in which data collection is complete, and one that will undergo two more rounds of data collection. The study that is complete consists of mixed method (both qualitative and quantitative) data regarding the experiences of LGBTQ psychology graduate students. Undergraduates could work with me on analyzing this data as well as preparing publications. Additionally, my dissertation work will be undergoing multiple data collection phases over the next academic year. For my dissertation I am developing a measure of gender expression in queer women. This project began with focus groups in the community and will be going into the first round of quantitative data collection of my initial item list in the fall. In the spring I plan to undergo the second round of data collection in order to confirm my final item list. Undergraduates could work on many components of this project. They could assist with collecting participants, and learning the process of item response theory and factor analysis as used in measure development. Additionally, they could be involved in working on publications from the focus group data and coded themes. I feel

that this would be a great opportunity for an undergraduate to learn about multiple stages of research and the differences between qualitative and quantitative data. If a student is particularly interested in LGBTQ research this would be a great opportunity for them to be involved in research with this population.

Project 3
Graduate Mentor: Stephanie Brown, Communications & Media
Project Summary: As I'm winding down my dissertation research on gender and stand-up comedy, I'm moving into my next project on Twitter and online pop culture fan communities. As this is a new project, my mentee will be helping with exploratory research rather than an advanced research project in progress. This means my mentee will have the opportunity to learn how to develop a project from the beginning by helping me conduct literature reviews, formulate research questions, and conduct exploratory research on Twitter and other social media. They will have the opportunity to learn qualitative research methods, social media analytic software, the tools and ethical guidelines for conducting digital ethnography, and the basics of fan and audience research.
I'm looking for a mentee who is interested in popular culture, fandom, and social media, even if it isn't their major or area of study. I've done some initial work on fandom surrounding TV shows like Switched at Birth and @Midnight in addition to a few podcasts like Mental Illness Happy Hour.   My next area of study will likely be fan podcasts like Gilmore Guys and Buffering The Vampire Slayer and fandom surrounding religious films like those produced by the production company PureFlix.

Project 4
Graduate Mentor: Tanya Cordoba, Early Childhood Education
Project Summary: The undergraduate research apprentice (URA) that works on this project can expect to be treated as a partner in a shared endeavor to understand and locate relational elements between teacher child interactions and classroom structures that support inquiry methods of instruction. The URA can expect to learn about the methodology of qualitative research specifically conducting case studies. Through guided instruction they will participate in data management, collection and analysis using methods such as observational fieldwork, transcription of audio recordings, interviewing, open and focused coding. Honest and warm communication through out our work can be expected along with timelines and clear structures for completing tasks.

Project 5
Graduate Mentor: Kim Drager, Ecology, Ethology, and Evolution
Project Summary: My dissertation project is on the architecture of ant nests and how nest shape varies between different species and environments. I use 3-D scans of ant nest casts to model how nest shape affects soil processes such as water flow, erosion, nutrient leaching, and mineral weathering. My current work is on a common species of ant found on a hillslope in Sand Ridge State Park in Illinois. The goal is to find out how nest architecture (e.g., orientation of chambers, total volume and depth of nest) changes in various positions along the hillslope. I will then model water flow through the hillslope to determine the effect that the varying nest shapes have on hydrological and erosional processes in the soil. An undergraduate assistant would be used to digitize the casts I make of the ant nests using 3-D laser scanning using a NextEngine 3D desktop scanner. This undergraduate will also use 3-D editing software to refine and edit the 3-D models, and ultimately to create a digital reconstruction of ant nests along the hillslope to be used in the hydrological simulation.

Project 6
Graduate Mentor: Brittany Frieson, Language & Literacy

Project Summary: My prospective dissertation project is a comparative, qualitative study that investigates African-American students' language choices in dual-language bilingual programs (Spanish). As a prospective apprentice of this project, your main responsibilities would be:

- Accompanying the researcher to weekly school observations.
- Collecting field notes during weekly school observations.
- Assisting with video and audio devices during school observations.
- Assisting with developing interview questions for research participants.
- Collaborating with the research team to transcribe data.
- Attending school functions as a part of the research project.

As an undergraduate apprentice, you will gain a wealth of knowledge about the research process, dual-language bilingual programs, and local public school systems. The ideal candidate for this apprenticeship should have an interest in educational issues that students face today.

Project 7
Graduate Mentor: Hannah Harris, Teaching English as a Second Language
Project Summary: The qualitative research project "Multilingual Students' Dialogic (Re)Negotiations of Teacher Centric Pedagogies" inquires into the extent to which multilingual students' engagement in the classroom influences teachers' practices and pedagogies. It takes an alternative approach to common themes in teacher research that analyze how teaching practices can improve student learning outcomes. This project proposes a student centered approach to teacher research to consider how students impact teachers. Primary data has been collected from observations of ESL service courses, teacher interviews, and student focus group interviews. An undergraduate researcher's main responsibilities include but are not limited to the following tasks in collaboration with the graduate researcher: reading and reflecting on relevant research studies, assisting in transcribing and analyzing collected data, and discussing the data to create a narrative and synthesize the findings. The overall aim of the research project is for a raised awareness in higher education about how students are influential in developing teachers' philosophical and pedagogical repertoires. Students with interests in education, linguistics, dialogics/writing studies, and multilingual students' experiences in higher education are encouraged to consider this project.

Project 8
Graduate Mentor: Melinda Higley, Geology
Project Summary:
For my dissertation, I study past climate variability in the tropical Pacific. Using sediments from a remote tropical Pacific island, the undergraduate researcher will study environmental and climate changes in the last 2,000 years. Initially, we will focus on developing a hypothesis, then we will test our hypothesis, and hopefully have some data to share with other scientists! In order to understand environments from the past, it is critical to know how old sediment is, and what it is made of. One avenue the researcher could explore is to test the sediment for its age and mineral properties. Another option is to document the tiny and numerous fossils found in sediment to understand its origin. Regardless of what we find, some research time will be spent producing plots or figures about the data, and preparing to present results to others in the scientific community.

Project 9
Graduate Mentor: Maxwell Holle, Food Microbiology
Project Summary: An undergraduate researcher would build a strong scientific research foundation through working in our laboratory. My project involves modifying an antimicrobial protein in order

to help improve food safety in the Hispanic style cheese, queso fresco. There are many different aspects to the project that will contribute to developing a variety of laboratory skills. An undergraduate research would help with reading and analyzing scientific literature, protein expression, protein purification, as well as quantifying the effectiveness of proteins in different queso formulations.

Project 10
Graduate Mentor: Huancui Hu, Atmospheric Sciences
Project Summary: Our changing climate is also resulting in change in a subset of extreme events—"atmosphere rivers," which are the fundamental reason for winter floods along the U.S. West Coast. Atmospheric rivers are defined as narrow and long structures in the atmosphere that transport as much water as is discharged by the Amazon River. The goal of my project is to understand the multi-scale features associated with atmospheric rivers and the mechanisms linking these features to local hydrological impacts (water resources and flooding). An undergraduate working on this project will use some of the basic statistical methods to estimate how the frequency, strength and duration may change in a warming climate. After quantifying the changes, we'll try to explain how these changes may happen and what would be the consequences to our society.

Project 11
Graduate Mentor: Meggan Lee, Sociology
Project Summary: My dissertation research is an ethnography of the Cook County Domestic Violence Court in Chicago, in order to understand how the institutional logics of criminal justice reform function in the lives of those who are criminalized. Due to the nature of this work, it will allow for undergraduate students to gain a better understanding of sociolegal scholarship as well as to provide qualitative research training for future social scientists. An apprentice will be responsible for conducting literature reviews and transcribing multiple data sources, including key informant interviews, field notes of court observations, and writing up things that stick out to them while reading over the data. Depending on the research assistant's ability to travel, there may be opportunities to conduct court observations in Chicago.

Project 12
Graduate Mentor: Emily Lux, Social Work
Project Summary: The proposed research focuses on the interviewing approaches used by forensic interviewers in protecting children who have experienced abuse. By engaging in tasks such as transcribing, coding for emerging themes, and giving direct input into the development of the final themes, the undergraduate researcher can learn the core framework of qualitative grounded theory research. More precisely, the undergraduate researcher will engage in a holistic experience by evaluating validity and reliability of themes, maintaining a research and memoing journal, and learning coding software, such as Atlas.ti and NVivo. An undergraduate researcher that works on this study will have the opportunity to work collaboratively on a research team consisting of masters-level and undergraduate peers. I provide a safe team environment to explore research, and really hope to impart the joy of using qualitative approaches to impact change in the lives of children who have experienced abuse.

Project 13
Graduate Mentor: Lisa Ortiz, Education Policy, Organization & Leadership
Project Summary: (Im)migration from Latin America and the Caribbean to the United States has historically influenced sending and receiving communities. My dissertation, then, asks: how is such

(im)migration represented in the 21st century and how do such representations converge with or diverge from experiences of (im)migrants and communities of reception in the rural Midwest, and their families back home? I pursue this inquiry by focusing mainly on the case of Puerto Rico, whose people straddle between having the privilege of U.S. citizenship and confronting the challenges of second-class citizenship both in and outside of the island. Specifically, I pay attention to representations in the media, of migrants, and of community members in the sending town of Jayuya, Puerto Rico, and the receiving town of Rantoul, Illinois and explore if and how social mobility and progress are attainable. In listening to community members with varied ethno-racial backgrounds in Rantoul, I hope to open a window into the experiences of other immigrant groups (predominantly Latinx/a/o) who are also grappling with labor, education, life, and distance in the rural Midwest and the larger society with which they come in contact.

Given that the nature of my project relates to individuals as well as archives, an undergraduate apprentice can choose an area in which they might feel their interest is better incorporated. That is, I foresee the possibility of transcribing, potentially visiting one of the research sites, or working individually with media sources. Main attention, though, will be given to the research process itself in the form of database searches and literature reviews. Being fully bilingual (speaking, reading, and writing) in Spanish is preferred but can be negotiated.

Project 14
Graduate Mentor: Collin Paschall, American Politics
Project Summary: Some members of Congress (MCs) work hard as lawmakers. They are active, specialized, and consistent in their efforts over time, and they help Congress turn ideas into legislation. Other members, however, are focused more on things like earning leadership positions in their party, working on local projects, or preparing to run for higher office. I am trying to learn the reasons why this difference exists. Part of my project is studying how MCs convey to citizens that they are "serious" lawmakers. If you join my project, we will look at media coverage of MCs and develop a coding system that we can use to measure the reputations of MCs as lawmakers. You will learn about research design, data collection and management in social science, and, depending on interest, we can also work together on some basic quantitative text analysis.

Project 15
Graduate Mentor: Andrea Ruehlicke, Media Studies
Project Summary: My research interests center around reality television programs and the contestants who appear in them. My dissertation specifically focuses on Canadian participants who have appeared on skill and talent-based competition shows. I aim to consider why contestants decide to take part in these shows, the labor involved in auditioning and filming, and the impacts that participation has had on their lives. An undergraduate researcher would be able to gain experience doing qualitative research - specifically, the work that surrounds interviews. As a part of this research project students would assist in some transcription work as well as work on locating contact information for potential interview subjects.

Project 16
Graduate Mentor: Charla Waeiss, Political Science
Project Summary: Outside of the United States, political parties' labels change with considerable frequency across elections in democracies. My dissertation examines the consequences of these changes for voters. I evaluate how party label changes affect voters' knowledge and understanding of parties that have undergone such changes, and, in particular, how partisans of these parties engage in politics after these changes occur. An undergraduate apprentice working on my project will gain

experience with data collection, data organization, how to follow coding instructions, how to make coding decisions when collecting information for a research project, and how to document coding choices throughout the data collection process. Given that my dissertation examines the relationship between changes of a political party's label and voters, an apprentice can expect to assist in the following: (1) evaluating the similarity between a party's label in the current election to the previous election; (2) assessing whether a party label's change occurs as the result of a merger with or split from another party; and (3) documenting information specific to political parties during elections.

Project 17
Graduate Mentor: Robert Arias, Business Administration (Marketing/Consumer Behavior)
Project Summary: My project considers how consumers construct, maintain, and enhance their experiences of belonging via consumption activities (including the purchase of a product, service, or experience). At this time, most consumer research examines how consumers react to belonging threats. I, however, focus on individuals' conscious choices to use consumption to belong. An undergraduate student will learn the fundamentals of the research process working with me from literature review to data analysis. After offering an overview of the process, they will have their option to work on three projects currently in progress. Two are more anthropological in nature and one is rooted in social psychology. The apprentice will therefore have the option to learn theoretical approaches from these two disciplines and their respective methods.