VT EPSCoR SOCKS Summer Research Internship

2026 Research Topics

(1) Indigenous Narratives and Storytelling in Global Environmental Governance

Mentor: Kemi Fuentes-George

Research Description: Since 1992, international institutions in biodiversity and climate have sought the "full and effective participation" of indigenous people in environmental governance. From the perspective of these organizations, greater Indigenous participation will allow these institutions to draw from a broader pool of environmental knowledge and create mechanisms for conservation and management that are inclusive of local needs. However, the kinds of knowledge claims that international institutions privilege do not often make space for Indigenous ways of understanding nature, which often encompass narratives of nature as sacred, as an ancestor, or as shaped by cultural interactions by local communities. This research project examines how stories by Local Communities and Indigenous People (LCIPs) are incorporated (or not) in environmental management protocols, and how those shape what we understand as “full and effective participation.”

Ideal Candidates: Someone who has done research or had training (classes etc.) on Indigenous and/or tribal narratives about the environment are preferred. 4 interns.

(2) Social Impacts of Stories

Mentor: Pablo Bose

Research Description: In this internship you will work with the Social Team Lead in the SOCKS project to help support the multiple studies of various applications of the tools and approaches of the Science of Stories initiative. You will work with a wide range of researchers from across disciplines including sociology, anthropology, linguistics, political science, geography, global studies, environmental studies, Spanish, economics and cultural studies to explore a range of topics and cases. These include projects that focus on sonic landscapes, restorative justice practices, migration, conspiracy theories, data ethics, and climate change. Your task in this internship will be to work primarily on aiding researchers with analysis and supporting/preparing for publication.

Ideal Candidates: Someone who has experience with mixed-methods research, with a knowledge of some qualitative and quantitative skills. Coding experience is fine but really secondary. Experience with social media or LLM research is definitely a plus. I don't need people who know how to code but I need people who know how to think widely and deeply, are open to innovative ideas and approaches and are especially prepared for the transition from primary research to analysis and publication because that's the phase we are moving into. 1 intern.

(3) Mental Health Discourse through Media and Diagnostic Language

Mentor: Alice Patania

Research Description: This research project investigates how mental health has been discussed and represented. Using natural language processing (NLP) techniques, the project analyzes large-scale textual data from media sources and editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM). The goal is to trace changes in language, stigma, and framing of mental health topics across time, identifying key shifts in public discourse and clinical terminology. The project combines historical data gathering with computational analysis to uncover patterns and trends in how society understands and communicates about mental health.

Ideal Candidates: Someone who knows how to code in Python. 1 intern.

(4) Fine-grained Error Analysis in Machine Translation

Mentor: Brennan Dell

Research Description: Machine translation has progressed to impressive levels of quality and is now available for hundreds of languages. However, it remains unclear how well these models perform in the details, especially on difficult linguistic phenomena, and languages different from English. In my research, I design tests which measure how well translation systems handle specific linguistic phenomena. I have particularly focused on the translation of the Turkish evidential suffix, which is used to indicate whether the speaker has direct or indirect evidence for an event. This phenomenon is especially interesting, because it has no equivalent in English, and is quite a challenging for translation systems to handle. Interns working with me will learn the fundamentals of natural language processing and machine translation, as well as the linguistic expertise to evaluate phenomena in translation. Students will have the opportunity to investigate phenomena and languages which interest them in this project.

Ideal Candidates: Programming/Python experience is nice, but willing to work with those with less coding knowledge. Having expertise in a second language is a plus. 2 interns.

(5) Local News Ecosystems and Civic Information Access

Mentor: Benjamin Cooley

Research Description: Students will work with data visualization specialist Ben Cooley to collect timely data about the news landscape and develop visual storytelling tools that illuminate the impact of student journalism and its potential. Through the creation of interactive maps and graphics, students will have the opportunity to learn how to make data about our world and culture come to life with great design.

Ideal Candidates: Some computational skills necessary. Show a particular interest in data visualization and are generally interested in working with quantitative data. 2 interns.

(6) Understanding and Promoting Human Connection in Serious Illness

Mentor: Bob Gramling

Research Description: Student SOCKS researchers will participate in team science under Dr. Gramling's guidance within the Vermont Conversation Lab. The focus will be on developing, evaluating and improving observable conversation markers of human connection between patients, families and clinicians. For example, some of our ongoing work includes the measurement and characterization of times in conversations when people stop talking to better understand naturally occurring types of pauses in clinical conversations and what they might mean in terms of patients feeling heard & understood. The student will learn about the science of human coding (labeling) audio/video to validly and reliably identify key conversational moments and computational approaches to developing scalable measures that can be applied to larger samples of observations. By late winter, we will identify the specific conversational context and target moment that the student will focus on so that they can prepare for a fun and productive experience. 1 intern.

(7) Estimating the impact of context on word meaning: Towards more fully leveraging LLMs in linguistics

Mentor: Julia Zimmerman

Research Description: Our primary goal is to estimate how much context changes the meaning of a word -- a longstanding linguistic question -- by developing methods for comparing interpretable linguistic information from the internal structure of LLMs, namely layer-specific embeddings and attention patterns. We plan to leverage the fact that the position of the initial embedding vector for a token is a coarse-grained representation of the token's "meaning" in general, whereas the position of the final embedding vector represents something like the token's "meaning" in that specific context*. Previous computational linguistics work -- especially in distributional semantics -- has relied heavily on static word embeddings, which are comparatively limited (but were the best tool available at the time). Attention-based transformers now enable contextualized word embeddings (CWEs), though these are often less accessible and interpretable than their static predecessors. Emerging research leverages CWEs in contexts similar to those studied with static embeddings. While we completely support this approach, we believe a highly promising application is yet overlooked, as their potential for studying fine-grained, utterance-specific, dynamic meaning remains largely unexplored. We aim to advance computational linguistics by highlighting the use of LLMs to capture utterance-specific meaning construction, rather than diachronic semantic change.

*There are many caveats/ complications here… but that is part of what makes this project interesting!

Ideal Candidates: interest in AI, LLMs, linguistics; Python programming experience; experience with AI/ deep learning/ machine learning/ LLMs/ artificial neural networks; fundamental linear algebra. 1 intern.