Honors Capstone Process

To submit your Honors Capstone Project proposal, meet with your faculty mentor and answer each of the questions below. Then go to <http://go.niu.edu/honorscapstone> enter your information, the course and faculty information, attach this completed form, and submit. Your project proposal will then be forwarded to your faculty mentor, department chair, and the Honors Program for approval.

**Title of Proposed Project:**

Analyzing the Change of Feminist Journals: A Machine Learning Approach to Language Processing in Academic Journals

**Define a question that your project will address. This could be a response to a problem, the solution to a concern or need, or how you will express your creative vision. (Remember that the project can be scholarly, creative, service-oriented, innovative/entrepreneurial, or community engagement).** **What is your Honors Capstone question? (50 – 100 words)**

How have the themes, language, and focus of papers published in feminist journals evolved over time, and how can machine learning algorithms and Natural Language Processing techniques uncover patterns and trends that highlight shifts in feminist scholarship and its response to societal changes?

**Develop a plan for carrying out the project that incorporates the following elements, as appropriate to the nature of the project: relevant skills, methodologies, and resources.** **Please describe below your methodology to investigate your question and your plan for completing your project. (250-500 words)**

*Step 1: Acquire the Pre-Processed Data*  
Since the data collection and cleaning have already been completed, my first step will be to obtain the pre-processed dataset. I will coordinate with my professor and research peers responsible for the data cleaning to understand the dataset's structure and variables

*Step 2: Understand the Dataset*  
I will thoroughly analyze the dataset to familiarize myself with its format and content. This will include identifying key variables such as publication dates, article titles, abstracts, and full texts. \

*Step 3: Select Machine Learning Algorithms*  
Based on my research question, I will select machine learning methodologies suitable for analyzing language over time.

*Step 4: Implement the Algorithms*  
Using Python, I will run the selected algorithm to process the dataset. I will ensure reproducibility by documenting all code and parameter choices.

*Step 5: Analyze the Results*The results from the machine learning models will be interpreted to identify patterns and trends.

*Step 7: Write the Final Paper*  
I will be documenting my research in a scholarly paper. This paper will include an introduction, methodology, findings, and a discussion of their implications for feminist scholarship and the broader academic community. Feedback from my advisor and research peers will guide the revision process.

*Step 8: Present Project and Board*

I will present my findings and construct a board for project findings to present at CURE

*Timeline and Resources*

This project will follow a structured timeline, with distinct milestones for acquiring the dataset, running the analysis, and writing the final paper. Resources include Python and related libraries, access to academic literature for contextual analysis, and guidance from faculty advisors.

By leveraging pre-processed data and advanced machine learning techniques, this project aims to provide a nuanced understanding of how feminist scholarship has evolved, contributing valuable insights to the field.

Each capstone project will address the following learning outcomes:

**Critical Thinking**: Students will demonstrate the ability to think in critical and creative ways to describe an issue or problem with understanding and clarity by summarizing, comparing, and synthesizing different pieces of evidence.

**Written Communication:** Students will submit a final paper. This may be a research paper, senior design report, or a description and submission of their final creative project.

**Oral Communication:** Students will present their project at the fall Honors Day Poster event, CURE, or another Honors-approved venue.

**Which additional learning outcomes will you focus on for this project? Select all that apply.**

**Subject Mastery:** Students will demonstrate mastery of their capstone project content.

**Ability to work Collaboratively:** Students will work as part of a team that facilitates group contributions, makes meaningful contributions to the group’s goals, communicates clearly and respectfully.

**Cultural Competence:** Students will demonstrate valuing, respecting, and appreciating diversity. They will demonstrate inclusiveness, self-awareness, and sensitivity while avoiding bias and working against the perpetuation of systemic inequities.

**Problem Solving:** Students will identify and define a problem and explore and critically evaluate approaches to solving the problem.

**Learning to work Independently:** Students will complete work with minimal assistance and take initiative when appropriate.

**Learning ethical conduct in research:** Students will demonstrate awareness of ethical issues related to their capstone project, examine how the issues apply to their work, and integrate, synthesize, and apply knowledge of ethical dilemmas and resolutions in their research project.

**Other** (Please Describe) Click or tap here to enter text.

**What are your plans for presenting your capstone project?**

Honors Poster Event (fall only)

CURE (spring only)

Departmental Showcase

Recital

Local/Regional Conference, Title of Conference: Click or tap here to enter text.

National Conference, Title of Conference: Click or tap here to enter text.

Undecided at this time

**What course are you taking to complete your capstone project?** Use the capstone course list and contact your department to verify the course and the process for registering.

[**Subject & Course Number**](https://niuits-my.sharepoint.com/personal/a1599341_mail_niu_edu/Documents/Desktop/Honors%20Capstone%20Courses%20-%20updated%207-18-24.docx)**: CSCI 657(490) / CSCI 499**

**Course Title: Natural Language Processing / Senior Honors Capstone**

**Section Number: 00B8/00P1**

**Class Number: 7719/4892**

**Describe your plan for communication with your mentor, i.e., where and how often you will meet and your mode of communication (face-to-face, telephone, email, Teams, Zoom).**

I will meet with my mentor at the completion of each major step in the project (data acquisition, understanding the data, algorithm selection, etc.). These meetings will take place during office hours.

**The capstone project is graded by your professor. List the tentative due dates/deadlines to submit IRB (if appropriate), drafts, final project, and criteria on which your project will be evaluated.**

**Timeline**

January 28: Acquire the pre-processed data.

February 11: Fully understand the structure and content of the dataset

February 25: Choose appropriate machine learning algorithms for the project’s analysis.

March 18: Execute the selected machine learning algorithms on the dataset and begin collecting results.

April 1: Finalize the analysis of the data results.

April 15: Submit the final research paper for review and feedback.

April 29: Complete and present the final project

Evaluation criteria

The project will be graded based on the successful completion of the previous steps and the quality of the final results

**Do you have any additional comments about this project?**

Click or tap here to enter text.