

Project Title: AI and Natural Language Processing for Emerging Social Issues

Project Description: This project develops and applies modern artificial intelligence (AI) and natural language processing (NLP) techniques to analyze large-scale text corpora related to emerging socially important and/or controversial issues. Students will examine how people discuss and make sense of various topics, such as trust in AI, emerging medical treatments, new technologies, and other rapidly evolving societal and political debates. The project will involve methods such as large language models (LLMs), semantic embeddings, BERTopic and related topic-modeling approaches, as well as LLM-assisted thematic analysis. Emphasis will be placed on building scalable and reproducible NLP pipelines for identifying, organizing, and interpreting themes and patterns across large collections of unstructured text.

The ideal candidate is a student with experience in Python and an interest in artificial intelligence, natural language processing, or machine learning. Experience with Hugging Face Transformers, LLM APIs, PyTorch, BERTopic, text embeddings, or large-scale data processing may be helpful but are not at all required.

Supervisor: Prof. Ethan Fosse

Application: Please submit your CV, unofficial transcript, and a single paragraph describing your interest in the project in an email to Prof. Ethan Fosse (ethan.fosse@utoronto.ca) and Prof. Nicholas Spence (nicholas.spence@utoronto.ca).

Start Date: Fall 2026 / Winter 2027

Research Areas: Applied Machine Learning, Information Engineering, Human Factors