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CPTS 421 Problem Statement

Title: Latent Probabilistic Model of News Sources
Description: The US military is working towards information and online security as the threat of information warfare grows. A major threat to information security is online media bias, and how it can affect its readers who are unaware of the presence of such bias. Currently, readers would have to detect bias in an online news source manually by looking for key patterns that would give away bias. This is especially problematic for readers of political news, which almost always have a political leaning being communicated implicitly.

What we want: West Point academy is specifically looking for a machine learning model that is able to detect forms of media bias online and display it to the user before they read a source. The model can compare articles to each other using Natural Language Processing, Sentiment Analysis, and emotionality/keyword distributions. It can also factor in non-textual contributors to bias per-article like the omission/commission of facts, in total measuring 9 major types of bias within the model. Bias information will be displayed per-event, and articles will be measured against articles that cover the same topic. The goal content that this model will analyze is news media articles, specifically current events articles.

Nature: Very Complex
Category: Software
Technology Categories: NLP, Sentiment analysis, Machine Learning Bias detection, probabilistic models, Software modeling and development

Where are we now: We have researched previous studies on this topic as well as social science's role in the model. The team has a general idea of how the model will be built, and an idea of an end-goal to reach. We do not have the data that we want to use, nor do we have the tools that we will use yet either. The team has also created the project scale in a manner that we believe fits into a two-semester long project timeline.