**Requirements for PDRR**

Executive Summary

Need for Project

* Many people get their news from online sources (Google, Facebook) that use recommendation algorithms to surface individualized news into people’s feeds → deciding what content viewpoints we are exposed to
* Algorithms tuned to maximize profit/engagement time, which has the side effect of pushing false/misleading/extreme information that reinforces people’s existing views
  + Justify this project with evidence of the problem

Problem statement

* Undo the negative effects of existing news filtering AI algorithms by creating an AI algorithm focused on combating misinfo and bias with the overarching goal of creating a more informed population
* Measure the quality of any news story in real time along three axes:
  + Extreme vs. Neutral language
  + Liberal vs. Conservative bias
  + Factual vs. Misleading vs. False info
* Societal-focused counterbalance to the monetary-focused AI in popular use today

Deliverables

* Software only project
* Web-browser plugin or app → DISCUSS PROS/CONS
* Factors and processes contributing to algorithm’s analysis should be clear/understandable to a non-technical audience (MODEL **INTERPRETABILITY**)
  + Trade off b/w deep learning and non NN-based techniques

Visualization??

* Algorithm workflow diagram (idk what else we could have visually)

Competing Technologies

* research!

Engineering Requirements

* speed/scalability/efficiency: we want to measure article quality in real time
* How will we evaluate success?
  + Human-labeled data?
  + Is unsupervised learning possible?
* App OR web-browser plugin

**Questions**

* Labeled data for this? Self-labeled? By humans? Can we go unsupervised?
  + Testing? How do we measure success?
* Detecting misinformation → somehow interact with some sort of fact checker? Just look at language that tends to be misleading?
* Rely on meta information such as the source (CNN vs FOX could tell us about the liberal/conservative lean)?
* Data storage
* NLP → algorithms that determine meaning of text data?
* Case studies: example articles on either sides of the spectrums
  + Is this more like article A or article B? Nearest neighbor type approach
  + Semi-supervised clustering with some labeled examples, mess with distance metrics
* “Understandable to non-technical audiences” → how do we quantify this?
* MAJOR GOAL: Defining engineering requirements

**Possible Competitors**

* How should we differentiate ourselves from products that already exist on the market?’
* Ground News:
  + [**https://ground.news/**](https://ground.news/)
  + compares news across outlets, regions and political spectrums (I don’t think this one uses ML)
* BLUFFNet: News Bias Check
  + <https://chrome.google.com/webstore/detail/bluffnet-news-bias-check/fmjanhkelnahgfekkfaefjlgaepgpjof?hl=en>
  + Uses “BLUFFNet deep learning model” to reveal bias in news articles in google search page…?
* Stopaganda Plus (Web Browser add-on):
* <https://addons.mozilla.org/en-US/firefox/addon/stopaganda-plus/?utm_source=addons.mozilla.org&utm_medium=referral&utm_content=search>
* Checks articles with an existing database (No ML or anything)
* <https://web.stanford.edu/~jurafsky/pubs/neutrality.pdf>
  + detecting bias in language

Doesn’t seem like a whole lot of ML/AI options for curating news. BLUFFNet doesn’t appear to be very popular or well documented.

**To-Dos**

* Research into:
  + Prior work
    - News bias ML plugins
* Baseline methods to compare against → how do we say that ours is better?

**Sources**

Reading for Bias: The difference between liberals and conservatives.

<https://www.thoughtco.com/reading-for-political-bias-1857294>

Possible dataset we can examine, they list their methodology and etc:

<https://mediabiasfactcheck.com/>