CS591 Network and Markets **Project Proposal**short line

**Reliability and Spread of News in Social Media**

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# **Section A. Project Proposal**

## **Project Title**

Reliability and Spread of News in Social Media

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## **Team Members**

*Nathan Gallaway*

*Scarleth Estevez*

*Sang-Joon Lee*

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## **Overview**

We are researching on news article reliability in social media sharing and whether or not their spread throughout the network is correlated with their reliability.

Task Breakdown:

* Data Scraping - All team members
* Research on method to analyze social network - Sang-Joon/Scarleth
* Implementation of graph analysis on data - Code
  + Reliability - Scarleth
  + Spread - Nathan
  + Correlation of characteristics of graph network - SJ
* Report & Poster - All team members

## **Project Description**

In a research done by Media Insight Project of the American Press Institute, 85% of adults say that “accuracy is a critical reason they trust news source”; however, only 12% of adults say that they trust news on social media sites. How trustworthy the audience find a source, is not only important to the audience itself but as well as news source as more people are willing to see their article or buy subscription which will generate revenue for the news outlet. What we are investigating is how reliable are news articles based on the components of where they originated, how many other news sources wrote similar articles, and the overall vocabulary used in the article to show bias. We are also looking at how news spread. Does it matter for an article to be reliable for it to spread? For this element, we are looking for social sharing links of the articles, how many people shared it and liked it as well as commented on the article. We are looking at what factors could possibly influence their spread and if these factor outweigh the importance of reliability. In our hypothesis, we are concluding that reliability has no effect of how news spreads on social media and that ideological bias is a greater factor in influencing the spread.

We have to take into account a lot of factors in news spread. Different ideological groups find different sources reliable based on the news source ideological bias. In a research done by Pew Research Center, it states trust level of news sources based on by ideological group. The chart in questions examines various high profile news sources and who finds them trustworthy based on audience ideological group, in the spectrum of mostly liberal to mostly conservative. Now, what we are looking for is this accurate in reality. Reliability is a factor of accuracy and trustworthiness no matter which group supports who. However, this can have effect on social spread through social media which can lead to the conclusion that reliability has little effect to how news spread in social media, which can demonstrate a reasonable clause as to why only 12% of people trust news on social media.

In addition, we also have to consider that people of the same ideological group will be friends with one another on facebook. In a study done by Eytan Bakshy, Solomon Messing, and Lada Adamic from Science Mag, this proves to be right. Most people are friends with people of the same ideological group, and sharing in social media leads to the same news sources being shown to the users.

In conclusion, we are studying the effect on how news articles reliability (based on our calculation of where the article originated,how many similar articles have been written across different sources, and how many biased vocabulary identified in the article) effect the spread of the article throughout social media. We are taking into account, social media bias based on ideological bias and also preconceived notions of the news source. We are hoping our conclusion can shed a light on which ways to make news reliable in social media and how each user can have more reliable articles appear on their feed, if that means whether or not they have to shed their preconceived notion on the news source based on their own bias.

## **Preliminary Methodology**

We are getting our data from webhose.io which is an api we can use that data scraps news articles and returns it to us in json format. We are going to use this for looking at the articles as well as looking at their social links and seeing their spread. Twitter and Facebook data for shares of articles.

## **Challenges/Risks**

|  |  |  |  |
| --- | --- | --- | --- |
| **Identified Risk** | **Impact** | **Probability** | **Risk Response** |
| Technical Expertise with data scraping is limited causing analysis to be delayed. | High | High | Start with pre-scrapped dataset from Twitter to get started from SNAP project from Stanford. Training will be taken by project team members without experience in data scraping. |
| Timeline for the project is very short and may result in reduced scope | High | High | The project team will focus on must-have items first and ensure preliminary analysis is completed as soon as possible and iterate |
| Roles are unclear in the beginning of the project which may make it difficult for members to jump in on a tasks that they are not familiar with. | Medium | Low | Hold frequent meeting on weekly basis to communicate progress and roadblocks in the beginning or the project. Understand that methodology and approach to analysis may vary during the project |
| An unreliable story that goes viral could get enough hits and links that it appears reliable | Low | Low |  |

## **Related Work**

* C Castillo, M Mendoza, Barbara Poblete (2011), Information credibility on Twitter, Proceedings of the 20th international conference on World Wide Web., page 675-684

## **Sources**

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