

COLLOQUIUM REPORT

“4 Reasons why social media make us vulnerable to manipulation.”, by
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The talk was mainly based on social media manipulations which can be very misleading for consumers. Social Media such as Facebook and twitter tend to amplify the effect of misleading news by spreading misleading news usually by spreading the source misleading news articles across their network. Unreliable sources based articles get shared in the twitter as tweets very much more than the reliable sources based articles such as from CDC. This happens because no-one checks/verifies the data. Distribution of the data was considered as part of research where it was understood that due to retweets of this fake news article or misleading article leads to large exposure of this article across the network. Here, it was understood that there are other accounts that try to amplify the misinformation spread, where some of them automated in-order to spread this misinformation. People usually check top-ranked items in their feed. The virality of these agents are mainly due to spread among agents and also spread among agents with limited attention. Manipulation of them can be done for virality. Because of the phenomenon of complex contagion, for every retweet there are lot of people who get exposed twice, this leads to people retweeting this article more with more belief or confidence that this article is genuine. This phenomenon is called echo chamber. Later, it was understood that due to simple contagion rather than complex contagion, spread can occur across various communities causing spread more than complex contagion. One has to be exposed fewer times in-order to retweet. Prediction can be done of spread by community concentration or spread among communities during initial stages. Further it was understood that, misinformation was targeted to certain communities so that the misinformation spreads widely among the communities. In general, users get segregated into like minded, similar thinking communities. People selectively follow and get influenced by the opinions. Bots were developed to follow people, tweet things and do lot of twitter stuff. Only difference between the bots were that each of them followed different type of ideologies. This was done to check whether to the communities push people into echo chambers. It was found that most of them would remain in the same echo chambers or communities where they started except some drifter bots. Also, the phenomenon of follow trains was studied, where it was found that accounts mentioned in follow train tweets got an average 600 percent increase in followers and then these accounts were used to spread partisan data and low credibility information. Next, engagement based algorithms were studied where more virality would be associated with articles of higher quality. Here, it was found that when the information load is low, that is there fewer memes, th quality of shared information is high whereas when the information load is high, quality of shared information is low and there is no co-relation between virality and quality. This phenomenon occurs due to limited attention which leads to lower quality of information. Many social media websites such as Facebook use engagement based algorithms to rank posts and give priority to stuff that an individual finds engaging, to keep people engaged in popular stuff.

Usually, people tend to share the memes/articles based on popularity and engagement of the article. But, in the study it was found that as the popularity of the memes/articles increase, there is a decrease in the quality of stuff. A simulation news app was built for checking the same phenomenon. Here, it was found that people tend to share articles with low credibility because there is more engagement and they are also less likely to flag these posts for misinformation. Therefore it was understood that engagement tricks the algorithms and also humans.

Next, study of various manipulations using bots that cause virality was done. The primitive instance was that of a bot that had two accounts and each would tweet article and retweet it continuously amongst each other, until it becomes viral. Other mentionable instance was a fake news website that had an account to publish fake news article and many accounts would retweet these articles in-order to make them viral. Detection of genuine or automated accounts can be done using Botometer. These bots try to influence accounts with huge number of followers with fake news articles, causing a lot of damage. Another strategy of bots was flooding, where the bot would share a false news article thousands of times in order to make it viral. Followed by this, there are also deletions after flooding such that there will be no trace left. Although, the number of tweets per day is fixed at 2400, because of deletion some accounts managed to make hundreds of thousands of tweets. Also, in-order to fake the engagement, articles would be liked and unliked multiple times, ultimately getting the attention of twitter users. Also, study was done to detect co-ordinated campaigns and fraud campaigns. Therefore as discussed above, network community structure, complex contagion, echo chambers, limited attention, engagement bias are some of the techniques used for virality online by bad actors to amplify misinformation and manipulate opinions.

Fake News and other other issues such as misinformation, manipulation campaigns during elections in twitter have been in the news for quite some time. Facebook news feed has been a victim of fake news. These cause wide ranging impact such as altering result of elections, altering opinions of youth, cause mental issues in youth. One way to tackle this menace, is to shun the usage of engagement algorithms and use quality based algorithms in social media. Another fix is not to rely too much on social media to get information and usage of online news websites from established or recognised news media would be preferable.

Self regulation and legally enforced regulation on social media and web search. Natural Language Processing techniques have to be used in-order to detect fake news and these articles have to be banned in the internet from display. Twitter users have to be careful while following unknown twitter accounts or reading feed from unknown twitter handles. One has to be very careful while sharing posts from news feed in Facebook. Further, government has to set up portal or website which would give internet users the prediction of genuineness of articles, quality, credibility of articles

published based on which they can share the articles across the social media. One has to consider a careful approach in handling social media in-order to avoid any manipulation or fraud.