Transparency.tube - “Election Fraud” Discussion Analysis

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Introduction

Post election news has been dominated by President Trump’s claim that he lost due to significant “voter fraud”. In this analysis we share preliminary results from our attempt to measure how this narrative is being discussed on political and cultural YouTube. Specifically, we’ve developed a method to identify videos discussing “election fraud” and label whether the discussions are “supporting” or “disputing” the president’s claim. These experiments use videos uploaded between 11/3 and 11/10, but on transparency.tube we make it possible to view “election fraud” discussions in 7,896 videos uploaded by 1,458 channels between 10/27 and 11/15. As of 11/16 these videos have generated 680M views combined.

Label Definitions

- Disputing: This label is given to videos that dispute the narrative being pushed by President Trump that the 2020 presidential election was rigged, stolen, and/or impacted by significant fraud. If significant “election fraud” is mentioned during a speech or interview, the dispute might be made clear after the speaker is finished or through text on the screen. Easily interpreted forms of insinuation and parody count as well.

- Supporting: This label is given to videos that support the narrative being pushed by President Trump that the 2020 presidential election was rigged, stolen, and/or impacted by significant fraud. This includes cases in which significant “election fraud” claims are made during a speech or interview, but not challenged afterwards. This also includes language or additional text that clearly insinuates or implies that this narrative is true.

- Other: This covers cases where “election fraud” is being discussed, but in a manner that does not clear dispute or support the narrative that it has had a significant impact on the 2020 election or in a context not related to the 2020 election.

Evidence for whether the video is supporting or disputing claims of widespread “election fraud” may come some time after the specific portion of the video in which “election fraud” is discussed. Such as at the end of a speech.

Identifying Election Fraud Discussion in Videos

Videos and transcripts for political and cultural channels monitored by transparency.tube are collected daily.

We detect “election fraud” discussion in videos by searching the transcripts (automatically generated closed captions) of videos uploaded by political channels for pairs of keywords commonly used when discussing the topic. These keywords don’t necessarily need to be adjacent, but must be relatively close to each other. Specifically we do the following:

- Video transcripts consist of a series of chunks of text. We use a sliding window that analyzes four contiguous chunks of text at a time. We call these snippets.
- We identify snippets in which one or more of the words “election”, “ballot”, or “vote” occur along with one or of the words “fraud”, “rigged”, “stole”, “steal”, and “theft”. We also consider words in which these are prefixes (such as plural versions of the nouns).

Our initial labeled data indicates that this heuristic has high precision as we’ve found that only 3 / 378 of the cases identified by it were discussing something other than “election fraud”. More analysis needs to be done to measure the recall (coverage) of the heuristic, but based on the immense scale of videos identified so far, it appears to be high as well. We leave this analysis of recall for future work.

Manual and Heuristic Labeling of Videos

Manual labeling of videos was limited to those uploaded between 11/3 and 11/10 and only the first mention of “election fraud” in each video was reviewed. If the label for the first snippet in a video is unclear, then subsequent snippets are analyzed. In total 378 mentions of election fraud were labeled including the top 160 viewed “partisan right” videos and top 110 viewed videos from all other channels. These manually labeled videos account for a small portion of the 4,895 videos discussing “election fraud” during this period. However, they have a combined 282M views and they cover 64% of the overall “election fraud” video views during the period.

The 378 reviewed channels consisted of 203 “supporting”, 129 “disputing”, and 46 “other”. The distribution is impacted by the decision to label more “partisan right” videos than non-”partisan right” videos.

In order to label the remaining videos we use the following heuristic:

- If other videos by the channel have been manually labeled, use the majority label from these manually labeled videos.
- Otherwise, use the majority label for all other labeled videos from channels with the same soft tags and political lean.

Due to the small number of videos labeled “other”, the heuristic only uses “supporting” and “disputing” labels when making predictions.

We use hold-one-out cross validation to measure the performance of the heuristic and find that it has an accuracy of 83%. For the “supporting” label the precision is 0.85 and the recall is 0.95. For the “disputing” label the precision is 0.80 and the recall is 0.94.

Key Findings

- YouTube's is correct that videos "disputing" "election fraud" have received more views than those "supporting" the claim of widespread "election fraud". However, our analysis shows that videos "supporting" the claim still account for a significant amount of traffic. **In particular, between 11/3 and 11/10, they accounted for 137M views and 34% of all traffic to videos discussing "election fraud" in our dataset.**

- Despite being the largest "partisan right" channel by far, FoxNews has received less traffic on videos discussing "election fraud" than other news outlets. They are also one of the few "partisan right" channels to regularly "dispute" claims of widespread "election fraud" and videos "supporting" such claims have been limited to interviews of the president and his campaign staff.

- **TODO** - Add description of video recommendation findings.

Limitations

- Due to issues with YouTube's default transcripts, a small percentage of the video links go to a portion of the video that is not aligned with the section of the transcript displayed on this page. You may have to manually select an earlier spot in the video inorder to watch the portion the snippet should be aligned with.

- There are a small number of channels that don't have transcripts enabled. One prominent example is CNN. Further analysis needs to be done to estimate how including channels with disabled transcripts would increase "supporting" and "disputing" view aggregates.

Future Work

This is a preliminary analysis of how the narrative of "election fraud" was discussed on political and cultural YouTube in the week that followed the 2020 election. There are a number of ways this analysis can be expanded and improved, but we determined it was important to share in its current form given the importance of the topic.

To follow up on this analysis we plan to do the following:

- For the small number of channels that have have transcripts disabled, we believe there could be value in creating a model to predict whether they have created content discussing "election fraud" and whether that content is likely to have "supported" or

“disputed” the narrative.

- The heuristics for predicting whether unlabeled channels should be labeled “supporting” or “disputing” have slightly higher recall than precision. This leads to a slight overestimation in the size of each group. Given the videos these predicted labels are used on only account for 36% of traffic during the time period we investigate and the difference in precision and recall isn’t significant, the overestimation is not significant. However, this is something we would like to account for in future work.

- We think there are a variety of ways we can improve upon the current heuristic that is used for predicting labels. We would like to label more training data and experiment with a variety of machine learning approaches. Specifically, there is a variety of extra channel information (including the embeddings we use in other transparency.tube work) that would likely provide useful signals. There is also the option of using Natural Language Processing approaches to classify the snippets themselves. The long range dependencies necessary to properly identify supporting / disputing labels makes this a difficult task, but we still believe this could be worth exploring.

- After developing a more accurate model, we believe it could be worth analyzing “election fraud” discussions that took place in the months leading up to the election.