

# MATH513 - Practical Presentation

Zachary Smith, Lukasz Gromelski, Ivan Chan, Goel Biju

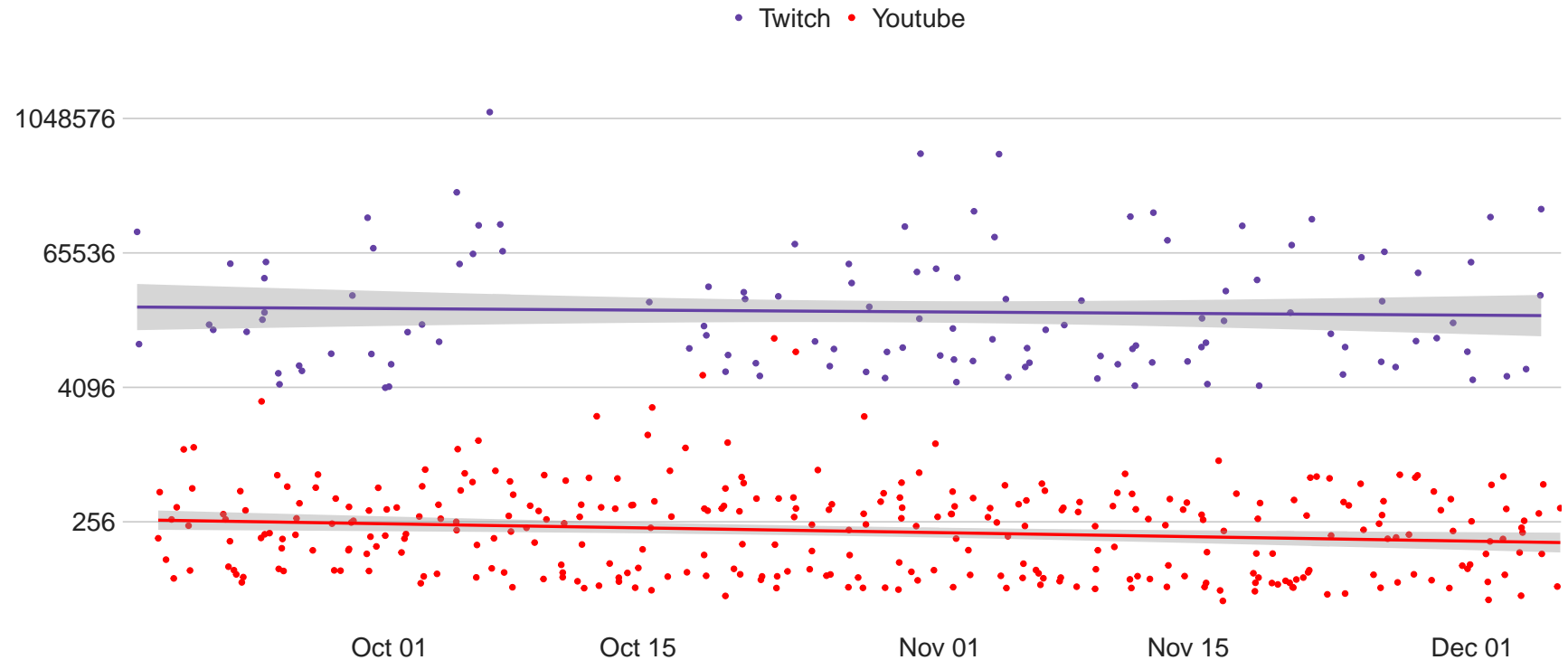
09 December 2021

## 0.1 Engagement in the media and on Twitter

### 0.1.1 Hypothesis 1: There is correlation between Follower Count and Tweet engagement

#### Twitter status (tweet) favourites for @Youtube and @Twitch

Engagement of @Twitch and @Youtube statuses by of favourites normalised for follower count

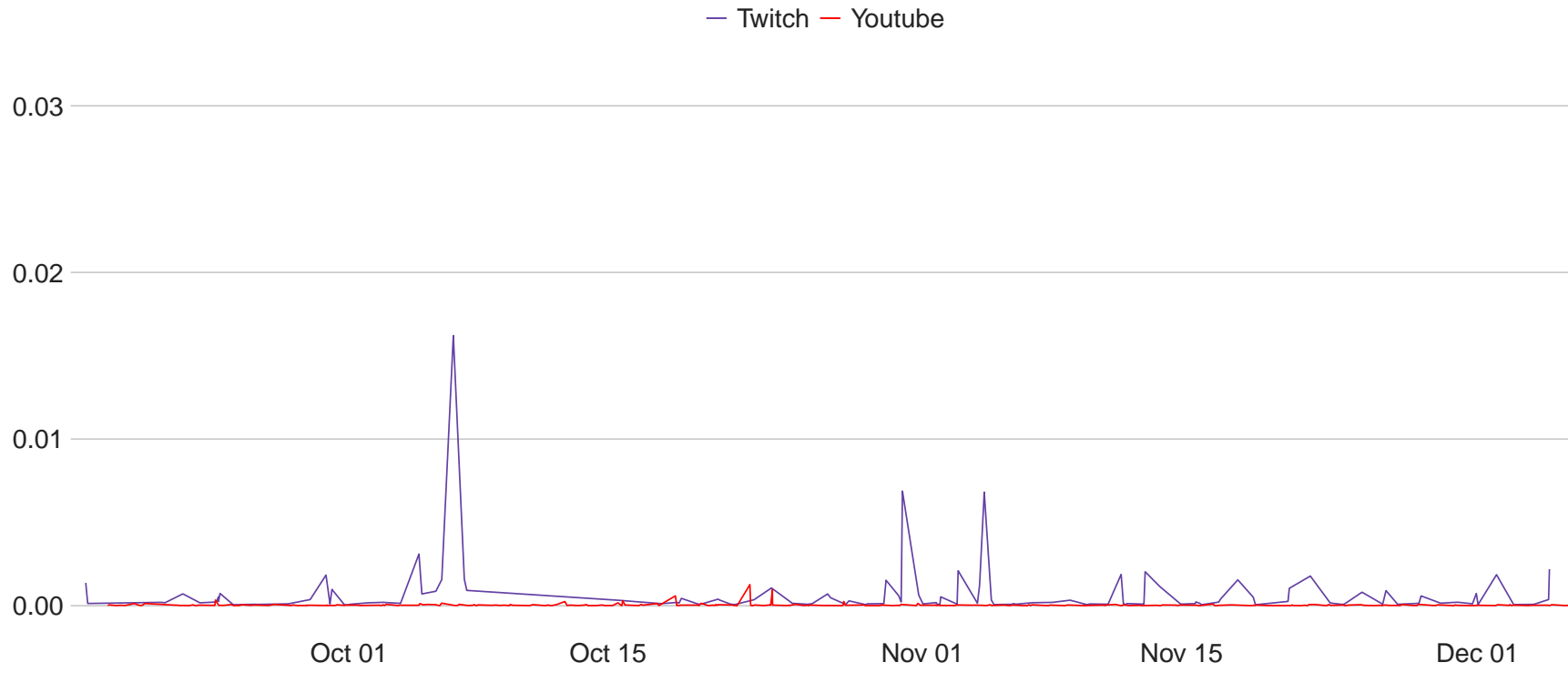


Source: Data collected from Twitter's REST API via rtweet

- We show that, when engagement measured by favorite count is normalized proportional to the ratio of @Youtube and @Twitch brand account followers, the @Twitch brand account clearly has significantly higher relative engagement with its followers.

## Relative engagement of @Youtube and @Twitch

Percentage engagement of @Twitch and @Youtube accounts according to favourite count as a percentage of f



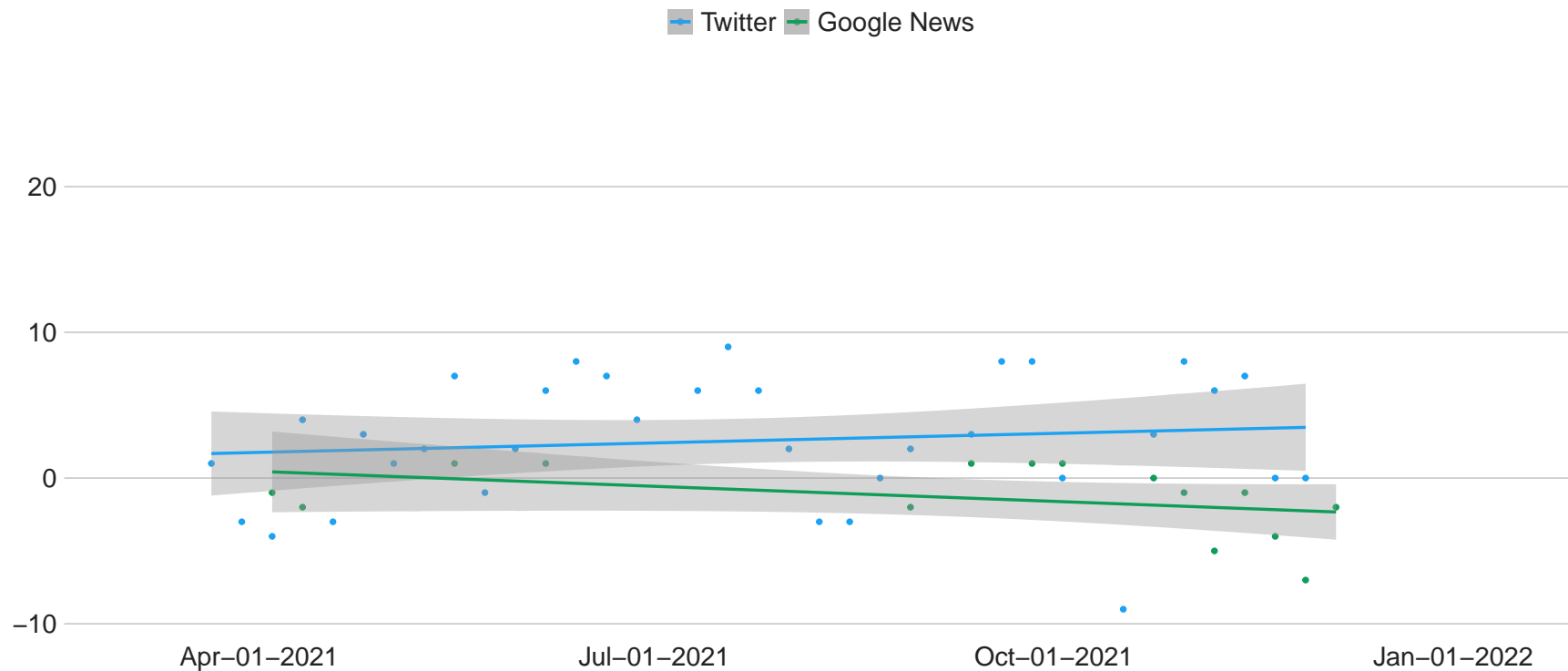
Source: Data collected from Twitter's REST API via rtweet

- We further show that, when engagement is adjusted relative to the total followers of the @Twitch and @Youtube brand accounts, while both brands engage actively with a small percentage of their overall followers, @Twitch has higher relative engagement over @Youtube.

### 0.1.2 Hypothesis 2: There is correlation between media sentiment and Twitter brand sentiment

- Tweets from a brand account will share contents with media headlines for a given time period.
- The media will reflect a similar sentiment to the brand account.

## Sentiment score between Twitter and Media



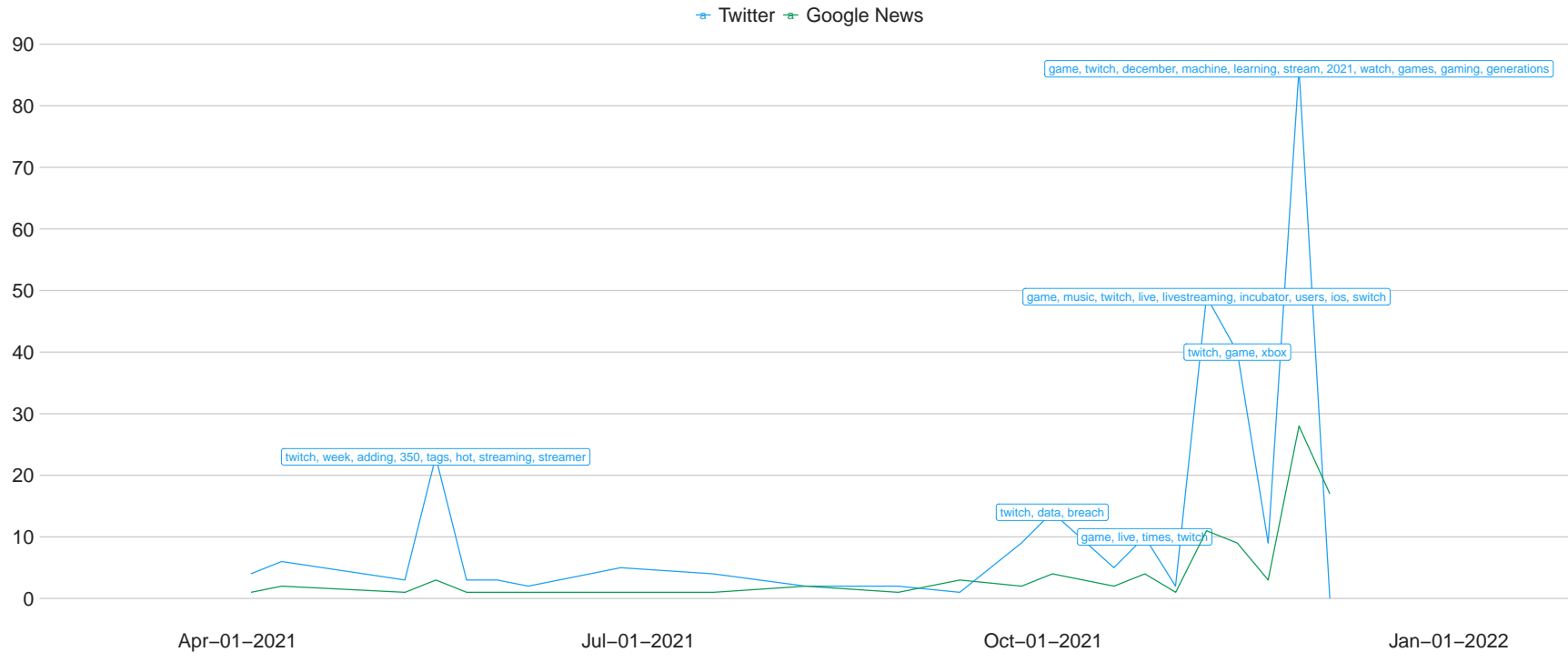
Source: Data collected from Twitter's REST API via rtweet and Google's RSS feed via tidyRSS

- We show that there is negligible correlation between media and Twitter sentiment.
- This is likely due to article headlines taking a more neutral tone to appear factual, whilst Tweets are more emotive to engage with an audience.

### 0.1.3 Hypothesis 3: There is intersection between article headline and Twitter tweet text

## Intersection between Twitter and Media

Intersection score between Twitch Twitter account and media headlines for Twitch



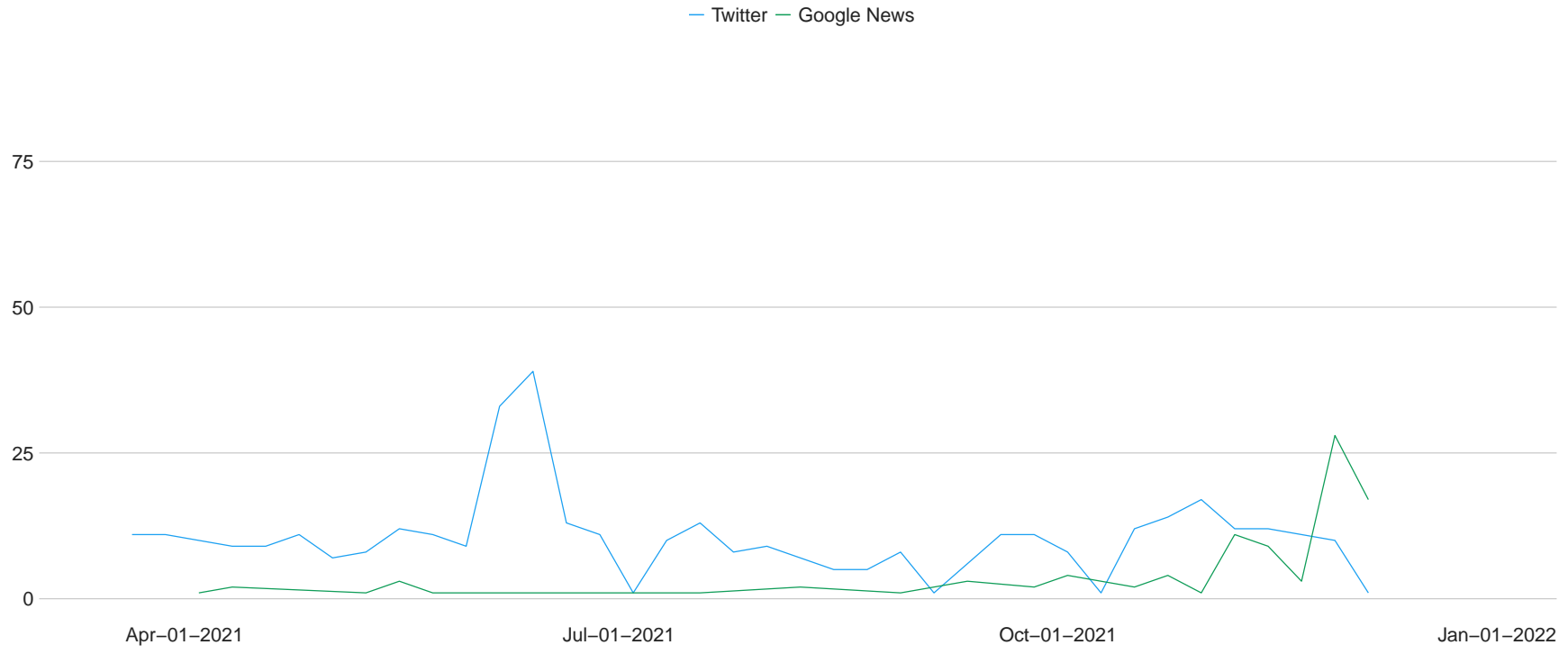
Source: Data collected from Twitter's REST API via rtweet and Google's RSS feed via tidyRSS

- We show that there is a high intersection between article headlines and a brand's Twitter feed.
- We also show that this correlation is relevant, as the intersection correlates with peaks in article count, indicating these intersections are not accidental.
- Notable examples for the @Twitch brand account include spikes for new features as well as controversies.
- There exists an increased volume of articles (and thus, increased intersection score) in recent weeks due to the limitations of Google's news feed.

#### 0.1.4 Limitations of collecting data using Google's RSS feed

### Frequency of @Twitch Twitter statuses and Twitch-related Google News articles

Twitter status (tweet) count and Google News articles aggregated every week



Source: Data collected from Twitter's REST API via rtweet and Google's RSS feed via tidyRSS

- We collected article data for our media analysis using Google's RSS feed for the topic of "Twitch".
- Relative to the available data collected from Twitter for the @Twitch brand account, we found that the RSS feed articles were not evenly distributed over time, resulting in a concentration of articles within the last few weeks.
- Whilst this limited the scope of our analysis, the data was still provably useful.