

Twitter Sentiment Analysis for Bungie and Destiny 2

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SpringBoard Data Science Bootcamp

Overview

- What's Bungie / Destiny 2?
- Getting Data From Twitter
- Exploratory Data Analysis
- Machine Learning Analysis
- Conclusions

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What's Bungie / Destiny 2?

- Bungie
 - Game Company
 - They're in Bellevue
- Destiny 2
 - Hit game by Bungie
 - Magic space ninjas with guns



Social Media Presence

- Official Twitter Accounts
 - @Bungie
 - @DestinyTheGame
- Lots of tweets
 - Announcements
 - Etc
- Use Twitter data
 - What do players think of recent updates to Destiny 2?
 - What do people think of Bungie?

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Data Acquisition

- Twitter Standard Search API
 - Get tweets from the last 7 – 10 days
 - Not exhaustive (\$\$\$)
 - Search terms
- Searches (~10 days)
 - Tweets about Destiny 2 (21.4k)
 - Tweets about Bungie (24.7k)
 - @DestinyTheGame's tweets (46)
 - @Bungie's tweets (107)

Data Cleaning

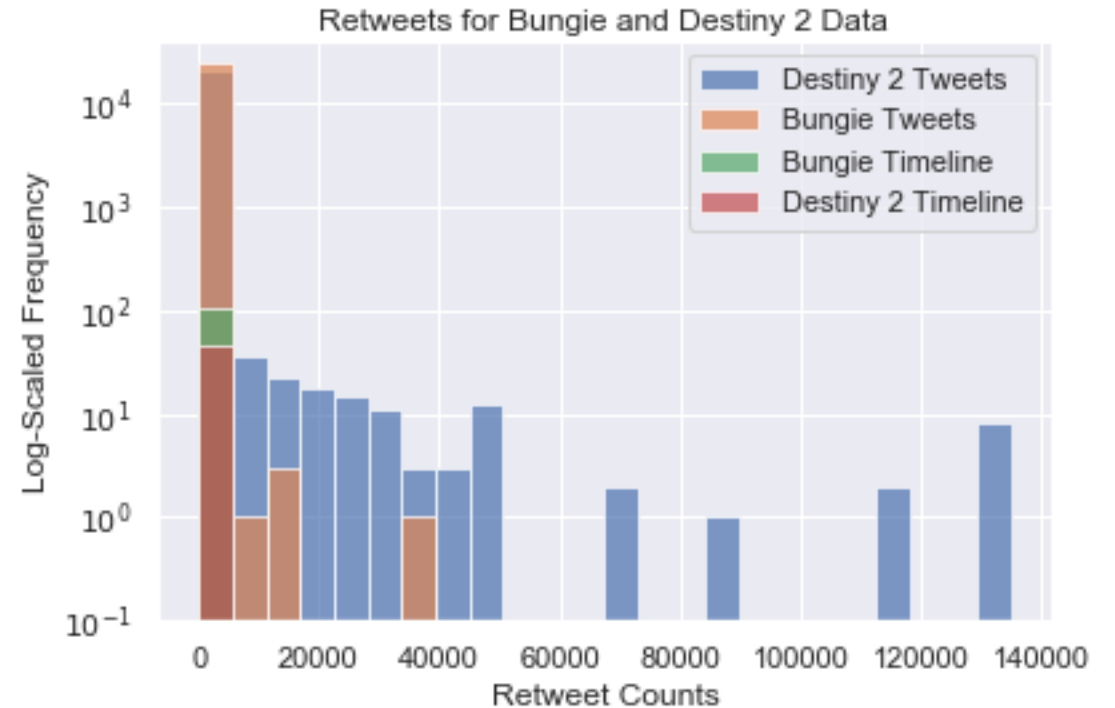
- Missing / misaligned data
- Reduced columns
 - 320 to 50
- Kept the data as 4 DataFrames
 - Concatenate them when appropriate

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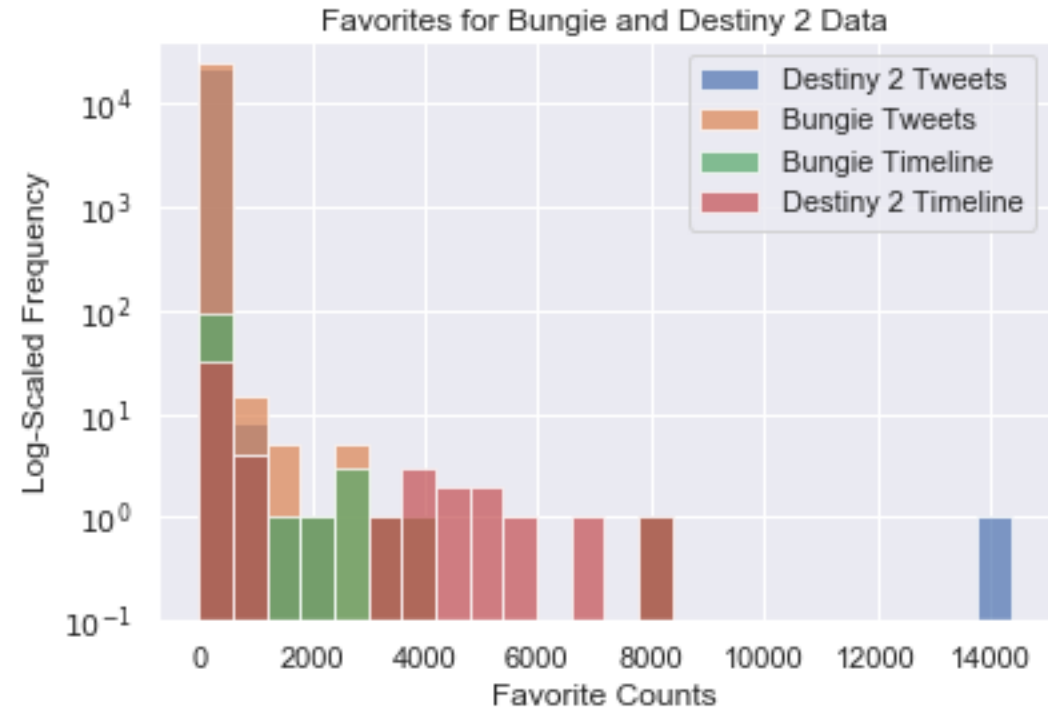
How Do I Measure Engagement?

- Retweets
 - Official accounts don't get many compared to others



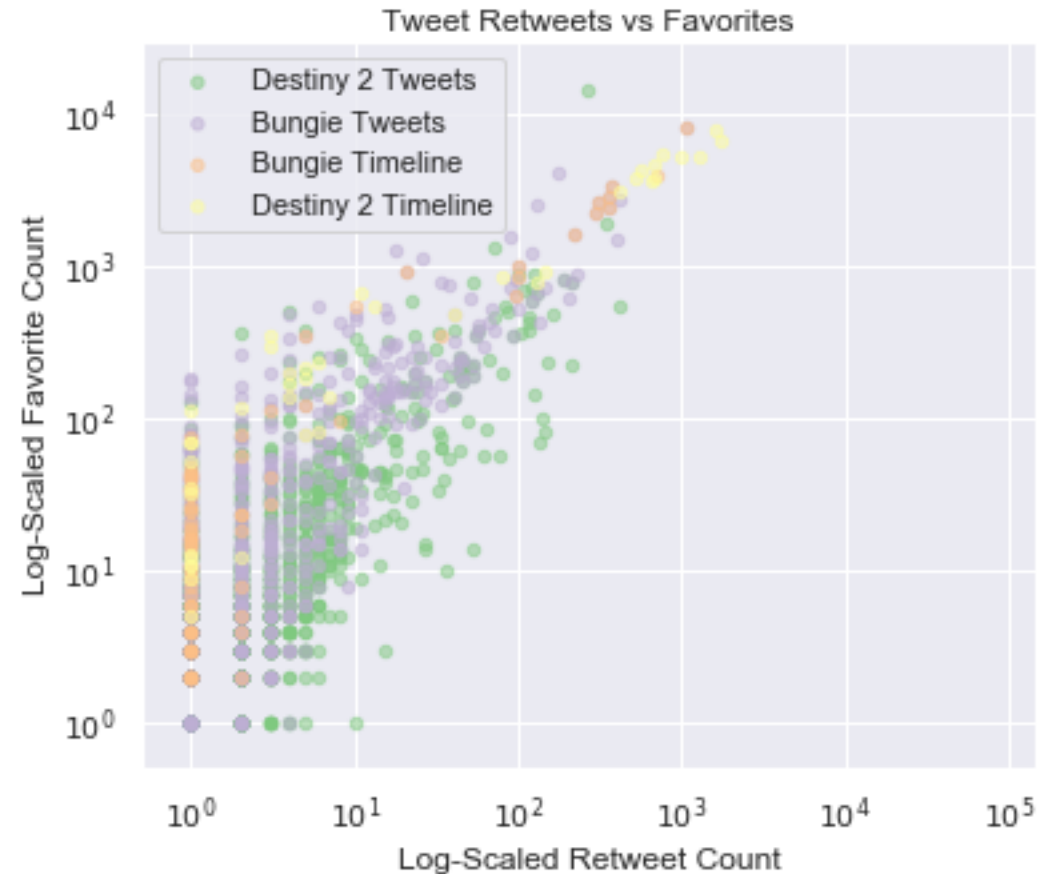
How Do I Measure Engagement?

- Retweets
 - Official accounts don't get many compared to other accounts
- Favorites
 - Official accounts do get at least as many as other accounts



Do Favorites and Retweets Correlate?

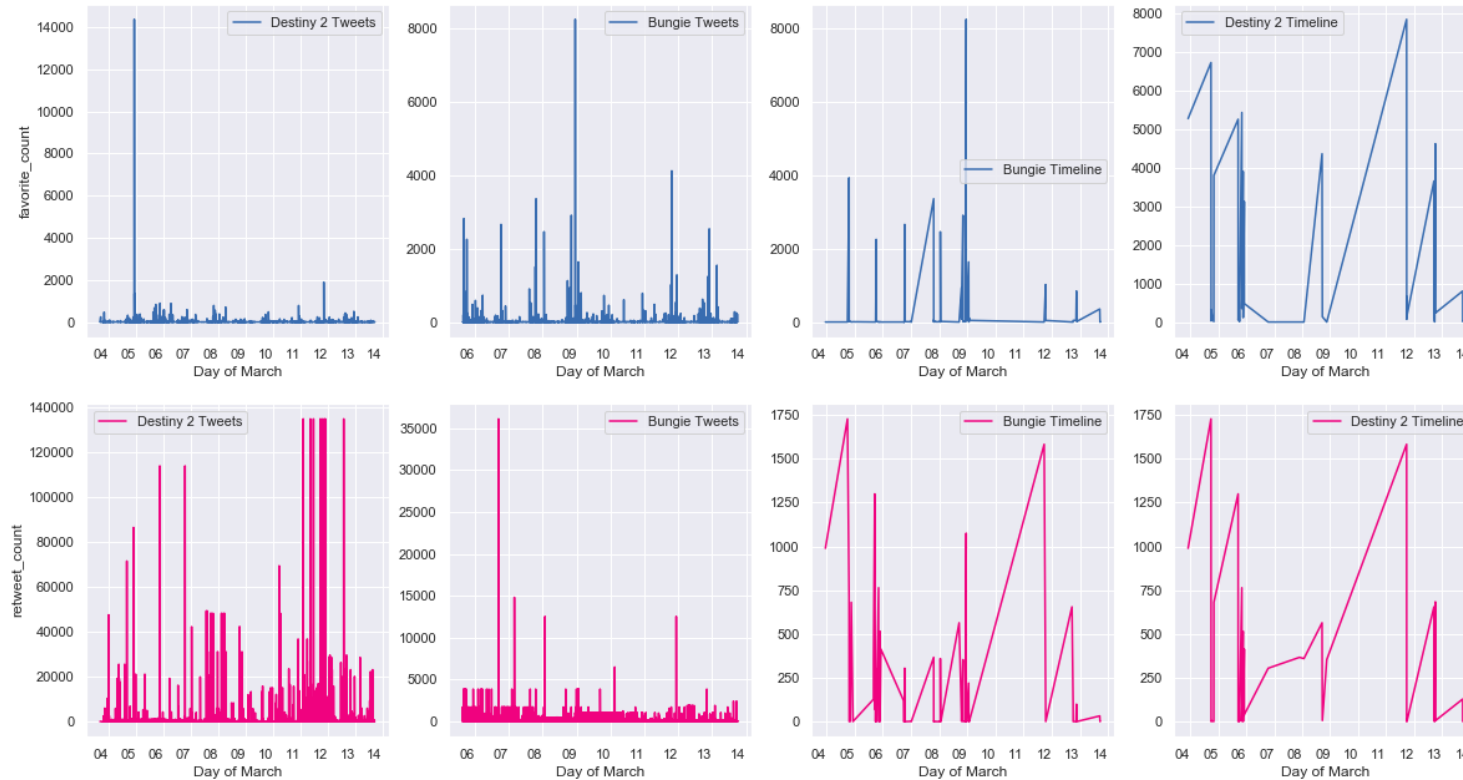
- Only if you log scale them both
 - Darn outliers
- Generally more retweets than favorites
 - CHECK THIS
 - DID I MIX UP AXES



Time Correlations?

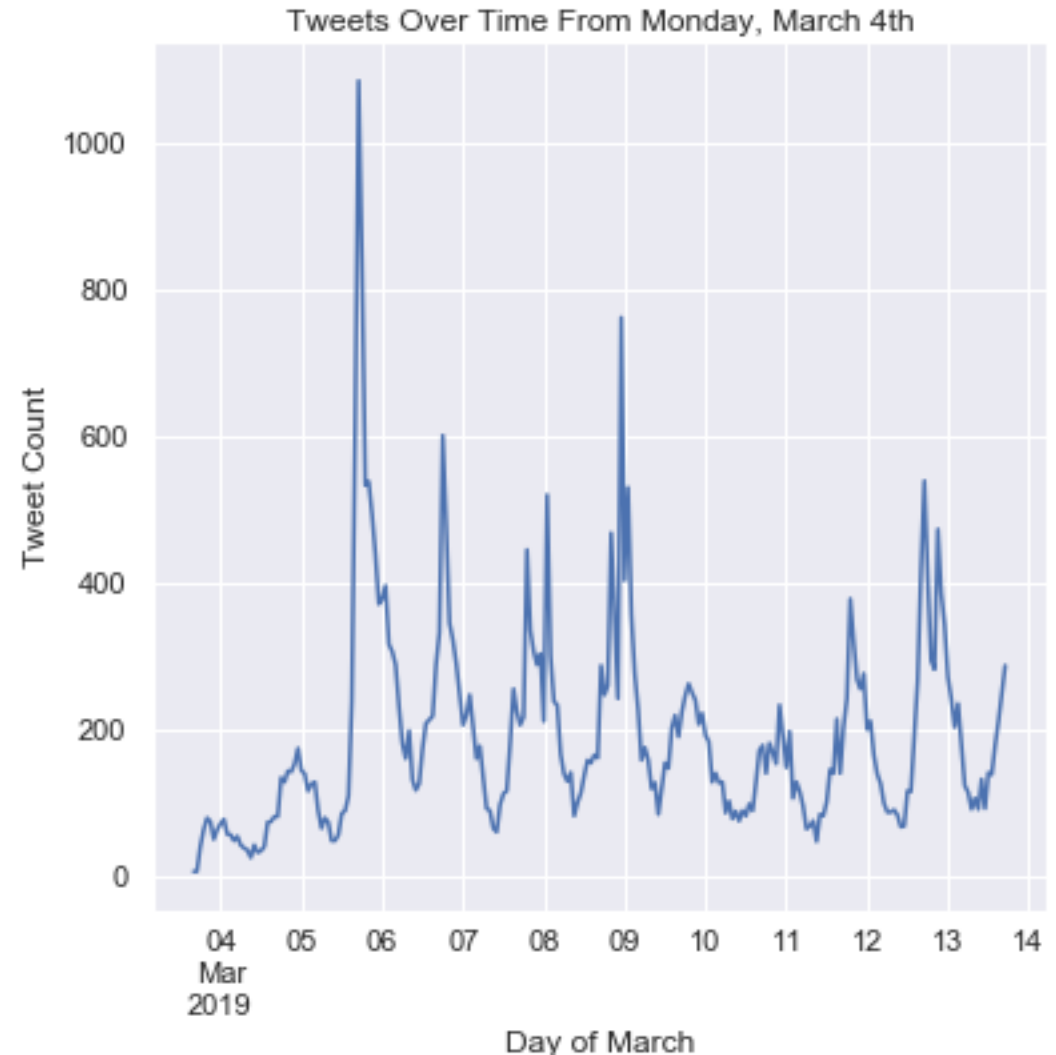
- Only on the official accounts

Engagement Metrics Across All Datasets



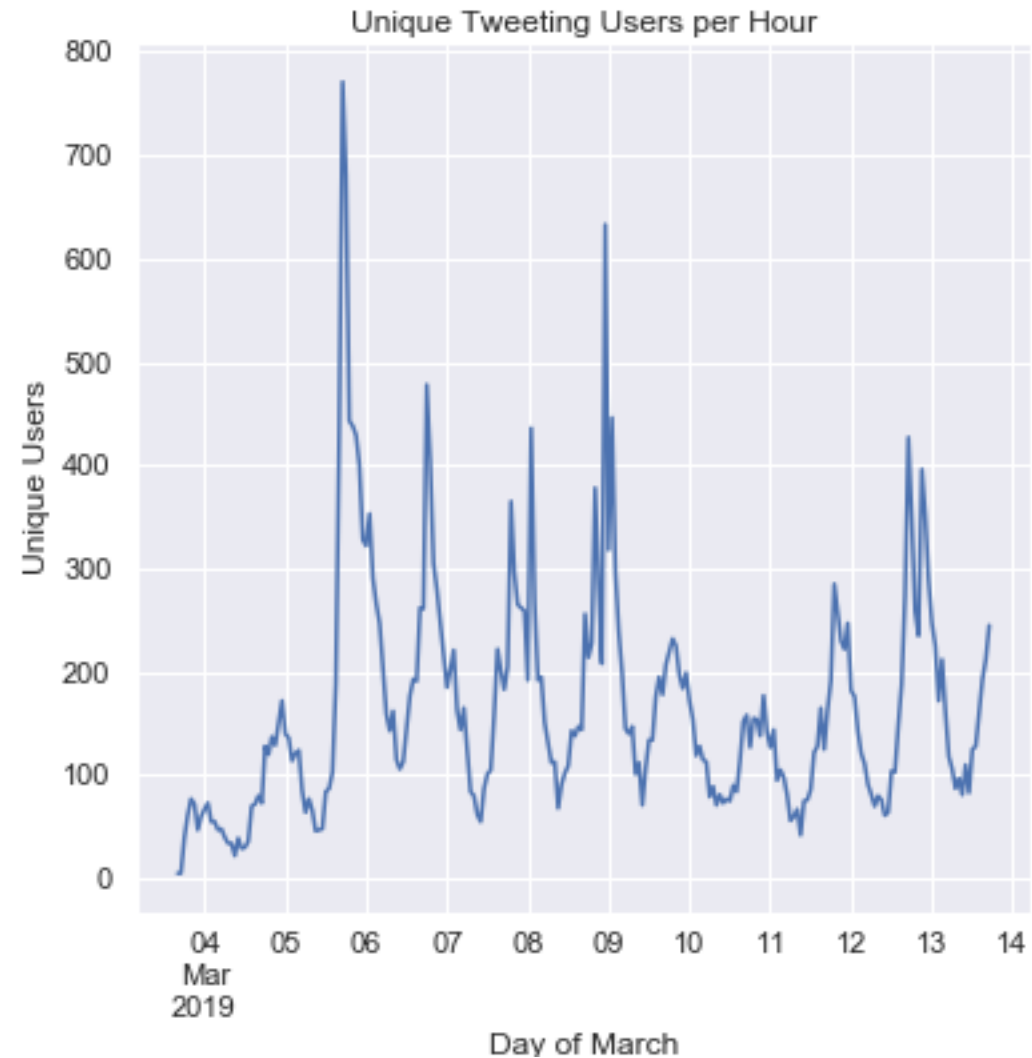
Speaking of Time...

- When are these tweets posted?
 - March 3rd – 13th
- Note:
 - The Destiny 2 tweets start on the 3rd
 - Bungie tweets start on the 5th
- Tweets posted in the evening, mostly on weekdays



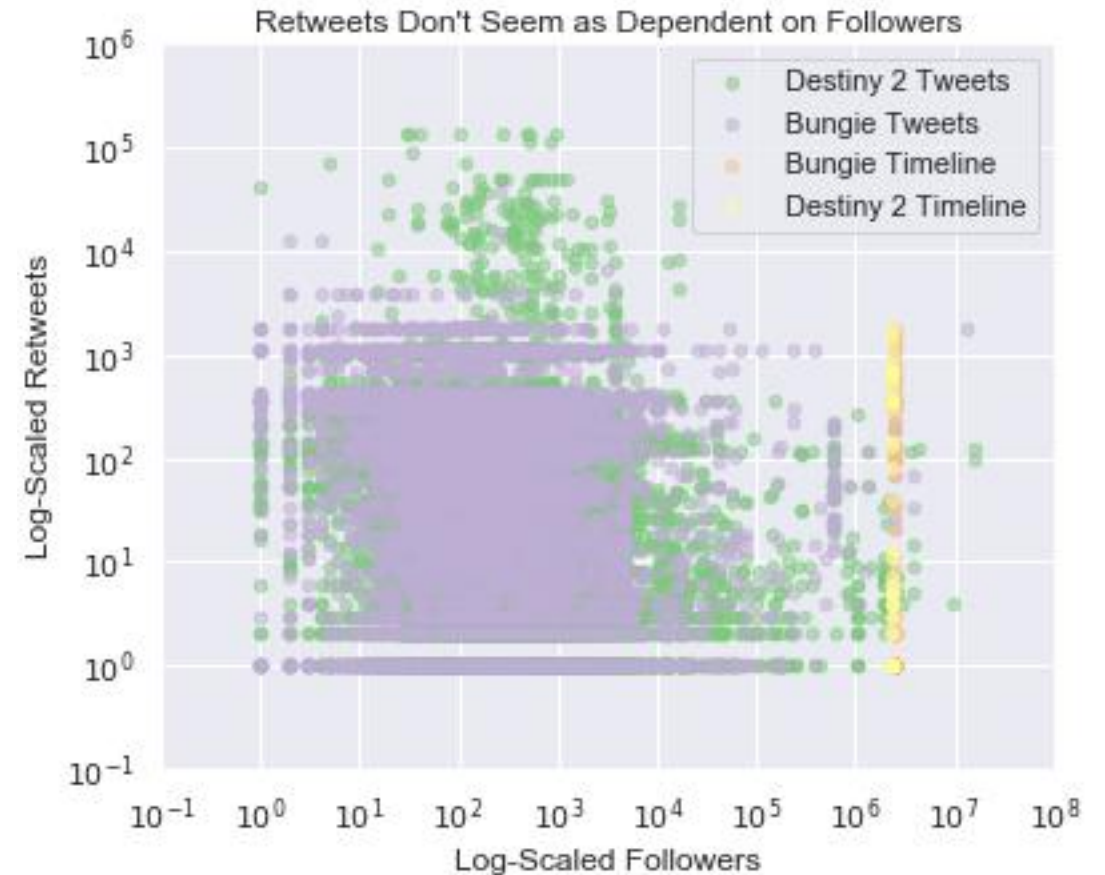
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- Unique users mirrors the same trend



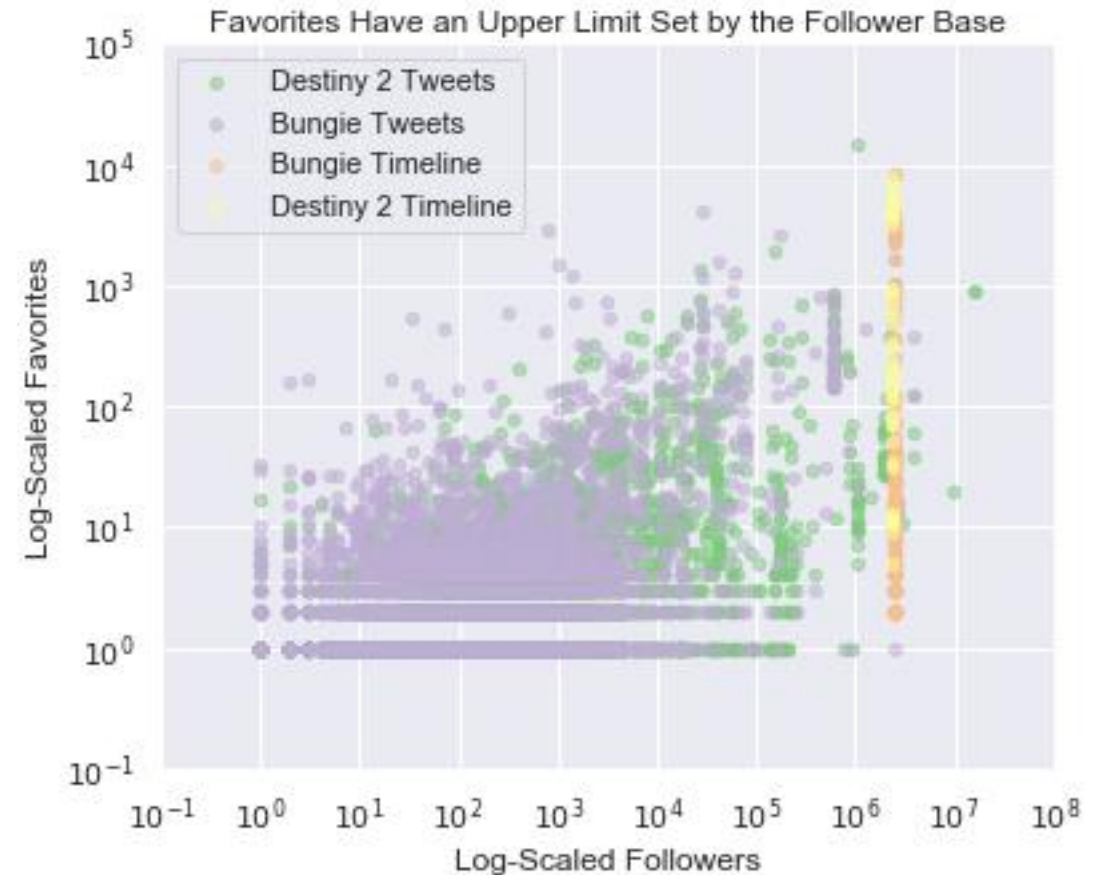
What Drives Engagement?

- First Guess: Followers
- More people will see your tweets, and then interact with it?
 - Apparently not for retweets



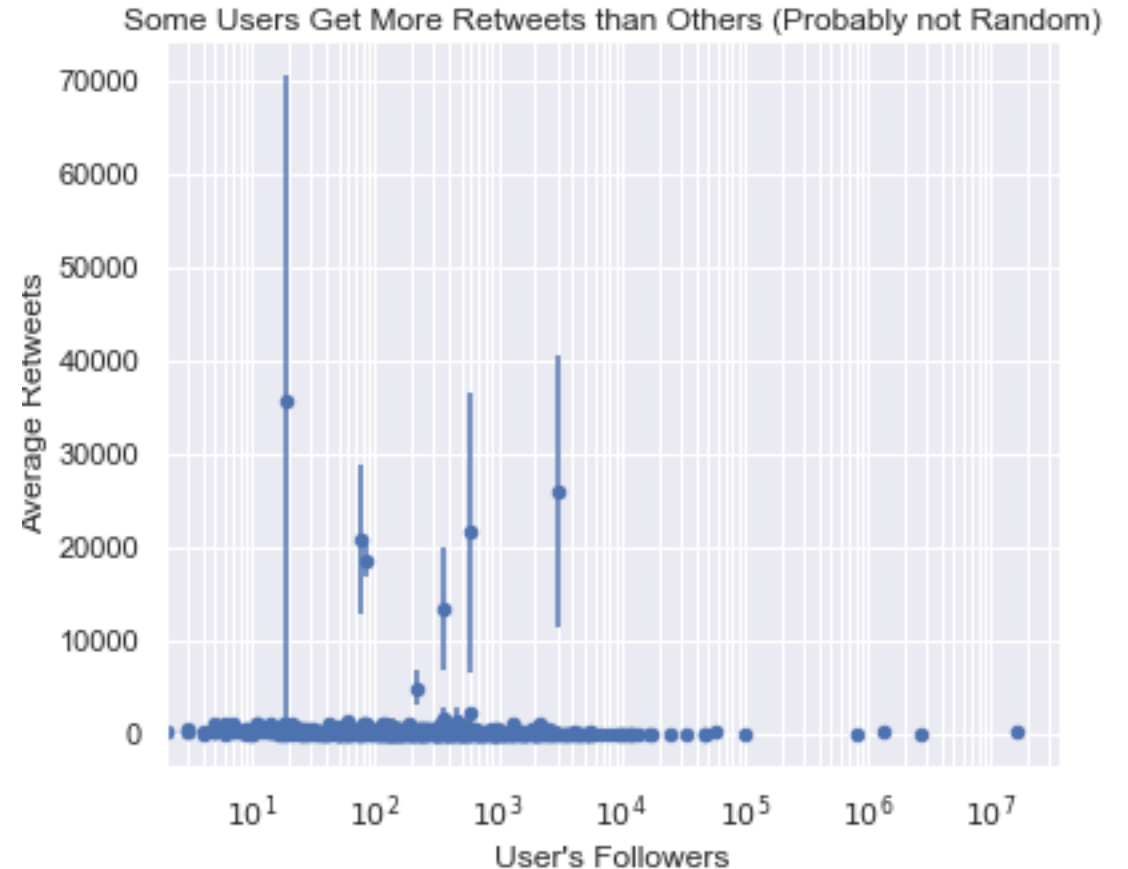
What Drives Engagement?

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 - Maybe for favorites
- These are single tweets
 - Aggregate over each user and check again



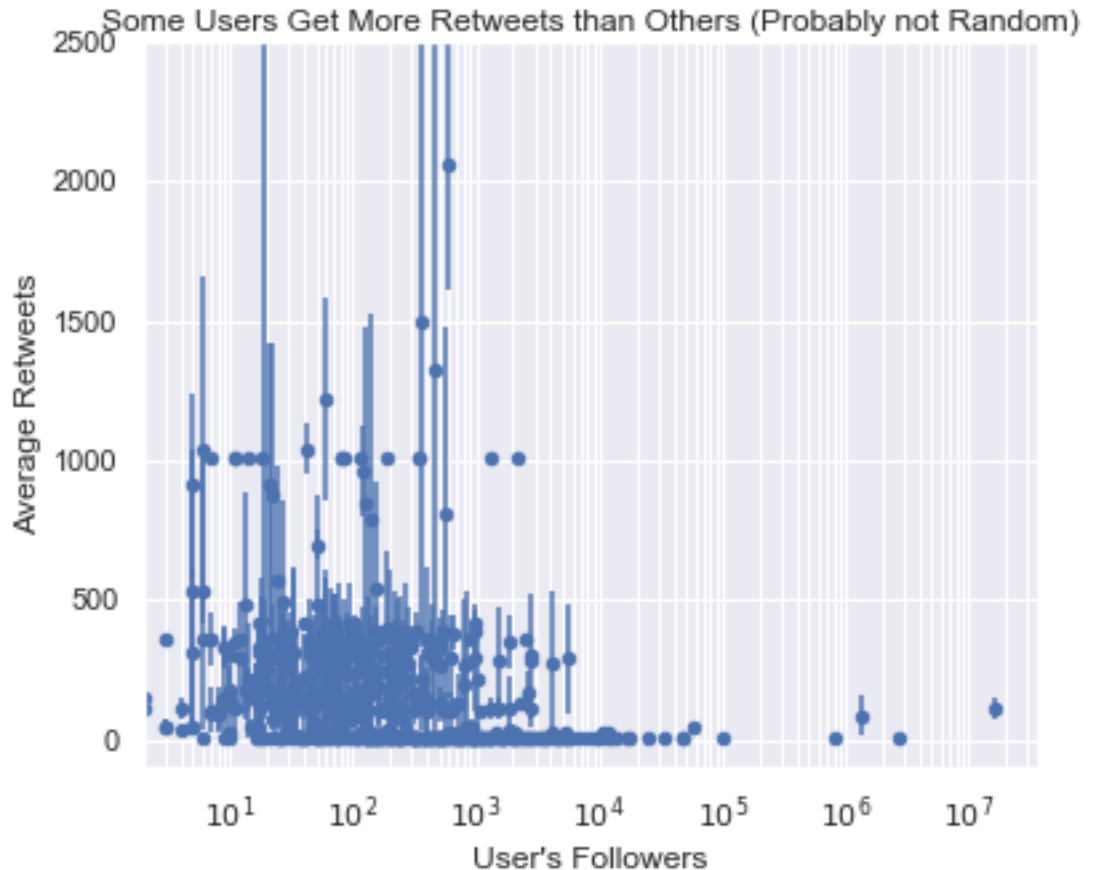
Engagement per User

- See if this gets us better results
- Can do a z-test
 - Average retweets
 - Compare to the baseline of 0
- Error bars are the 95% confidence interval for average retweets
 - Some users definitely get more retweets



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 - Zooming in, more evidence

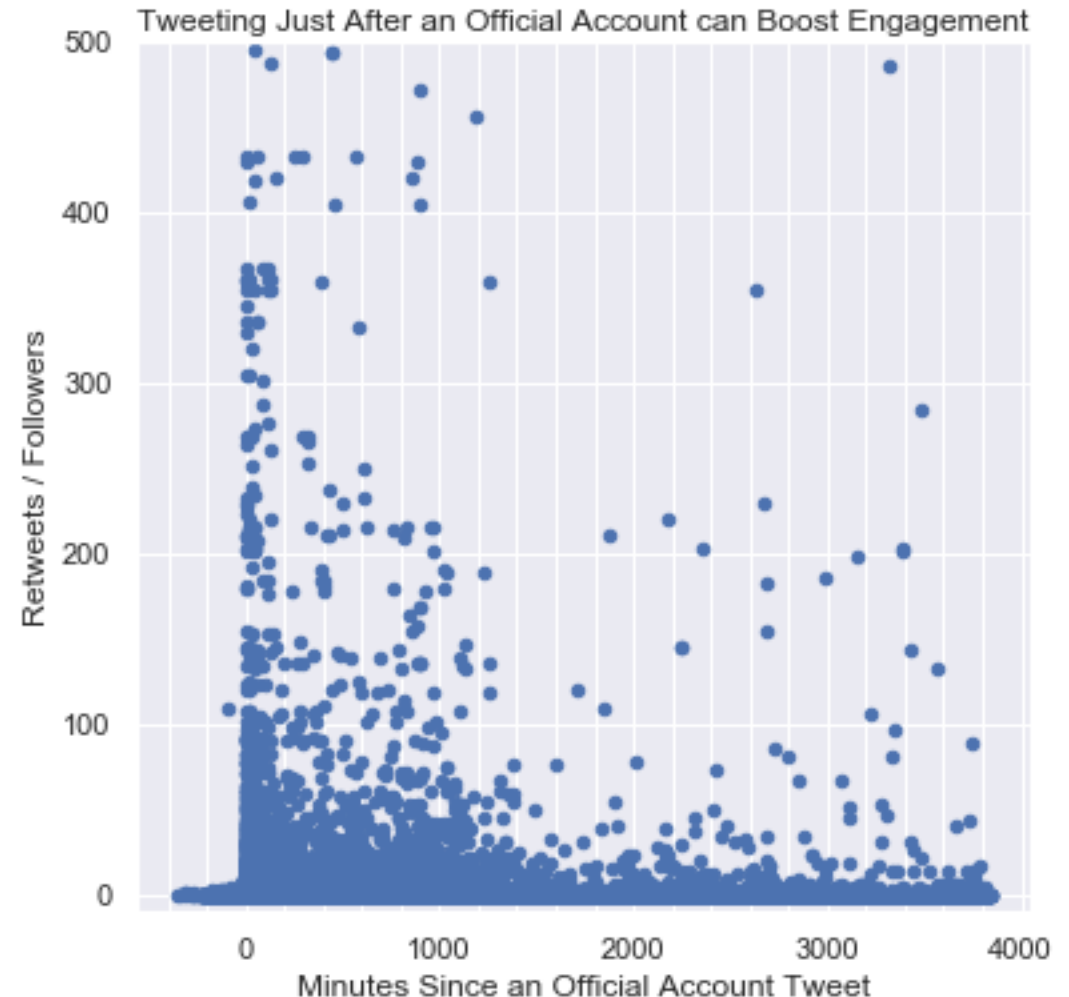


What Drives Engagement?

- Timing?
- Can check time of day (SHOULD)
- Time since @Bungie or @DestinyTheGame tweeted?

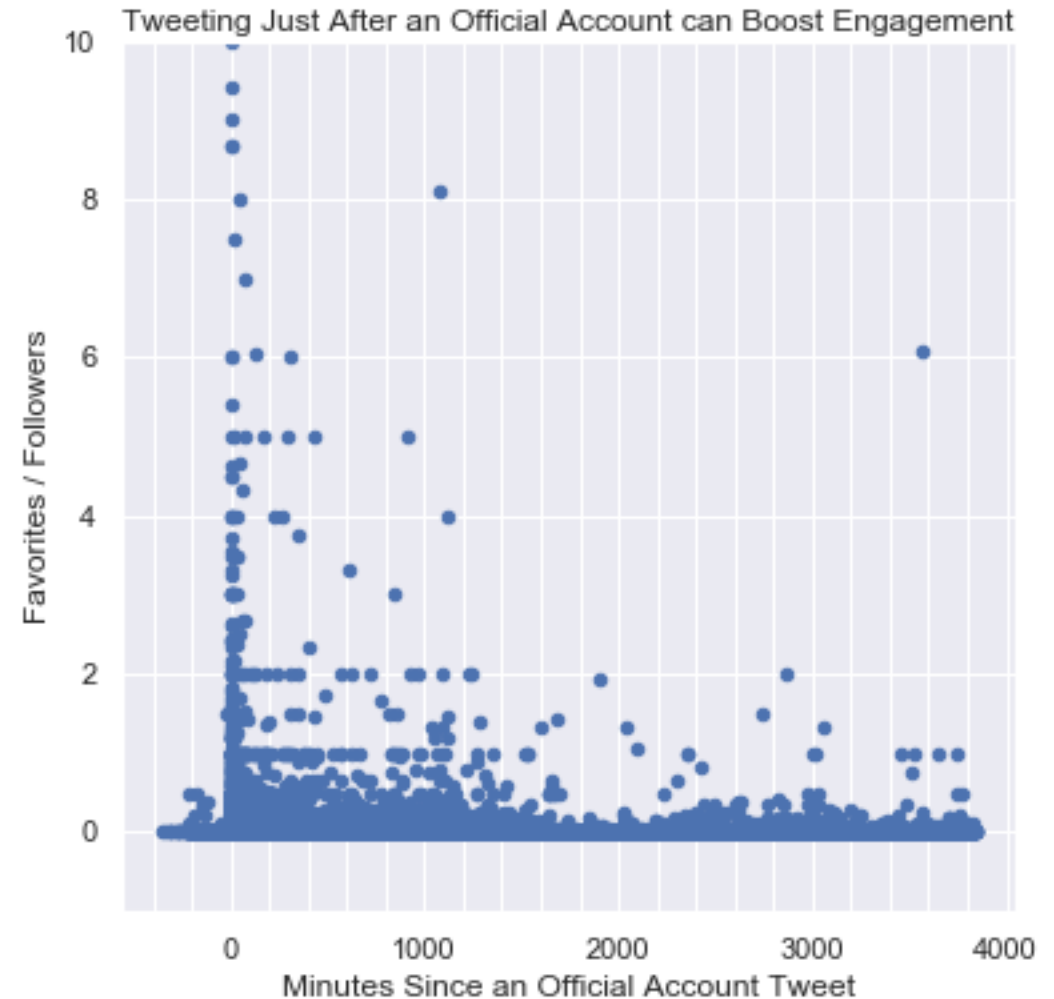
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