Make Tweets Great (Again?)

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Data Sets

- Tweets sent to @realDonaldTrump between June 2017 and now
- Tweets using #MAGA between June 2017 and October 2017
- All in JSON

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Question

How quickly does sentiment towards political operatives change, relative to their place in the social hierarchy?

As a Washington insider falls from grace, how quickly do those active in the #MAGA and @realDonaldTrump shift allegiance?

Did sentiment change towards Bannon before and after he was fired by Trump? How does sentiment differ between @realDonaldTrump and #MAGA?

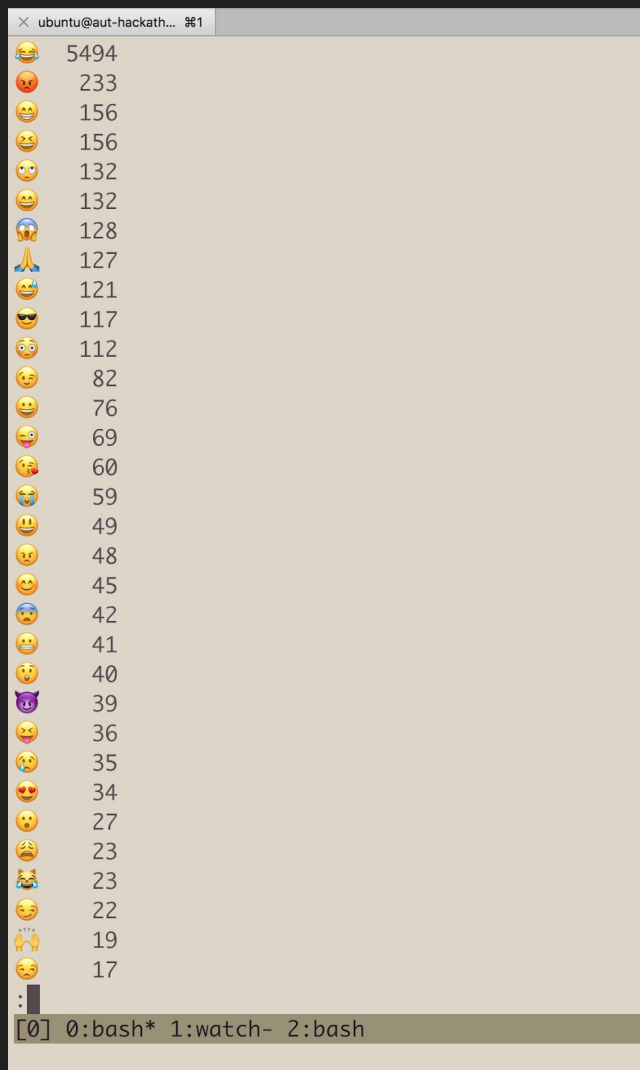How does sentiment towards Comey change leading up to his book release?

Techniques

We use sentiment as a proxy for shifting allegiance.

We implement two methods of measuring sentiment:

- Mapping of Emojis to sentiment scores (*Novak, 2015)*
- Text-based sentiment analysis with the Python TextBlob library

Extremely preliminary results

Emojis that appear in Tweets sent to @RealDonaldTrump that contain the word 'Bannon'

```
😂    5494
😡     233
😄     156
😆     156
🥺     132
😅     132
😱     128
🙏     127
😅     121
😎     117
🥵     112
😉      82
😜      76
😛      69
😘      60
😢      59
😀      49
😤      48
😊      45
😰      42
😐      41
😥      40
😈      39
😝      36
😟      35
😍      34
😮      27
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🙌      19
😉      17
:
[0] 0:bash* 1:watch- 2:bash
```
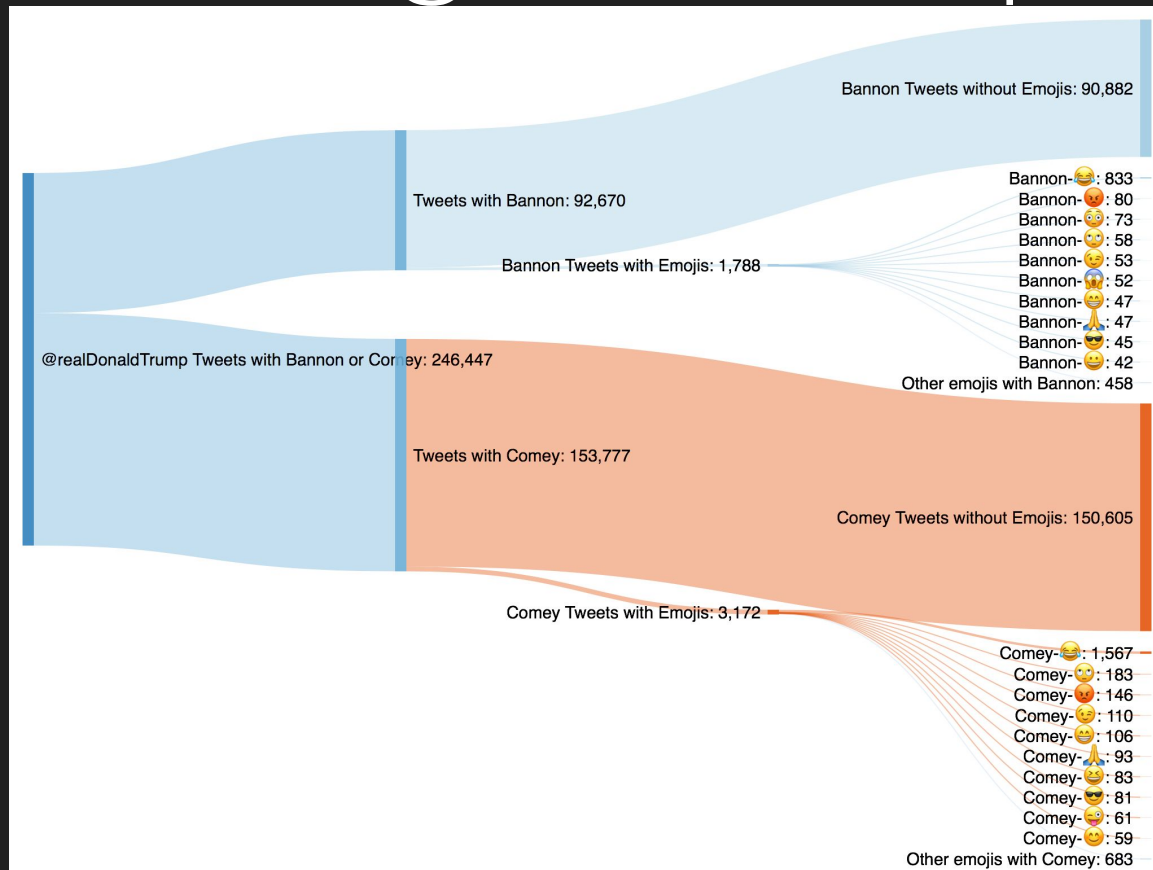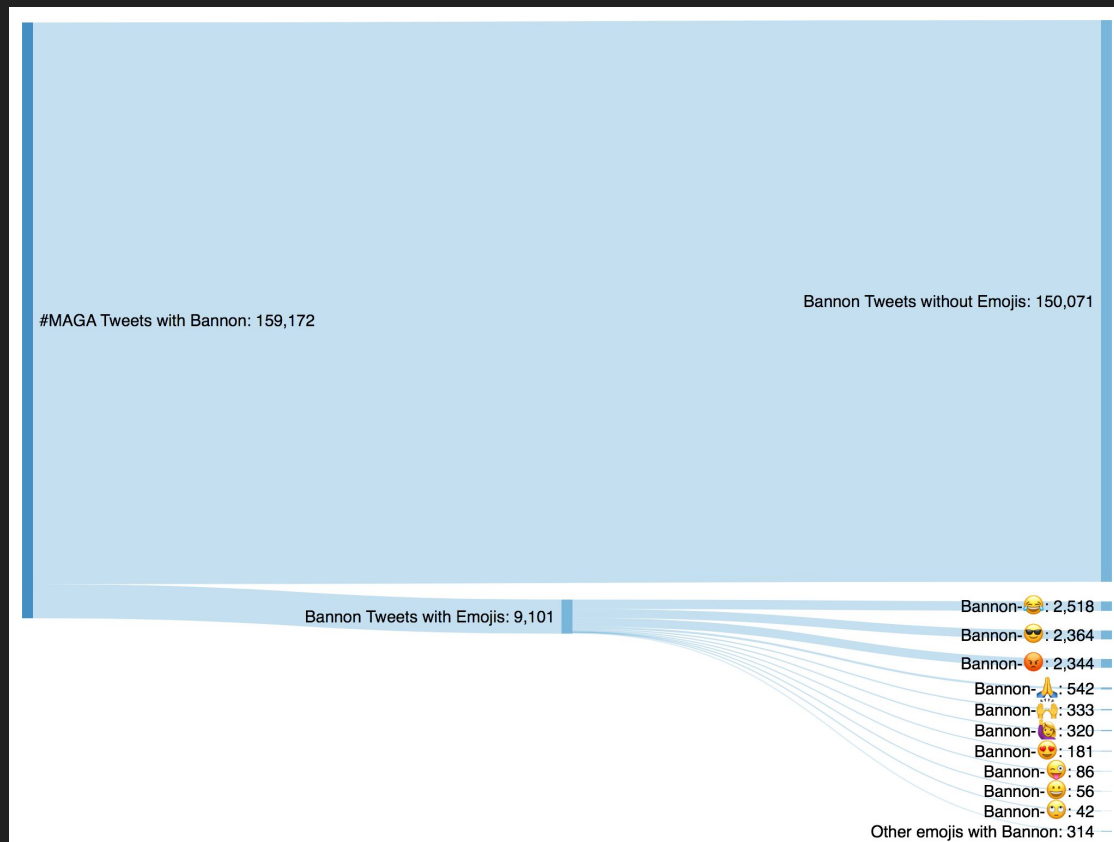
Steps

For @realDonaldTrump:

1. Using twarc as a library, Find all tweets containing the word 'bannon' (case insensitive) in the tweet text
2. In tweets containing 'bannon' find & print all emojis & count
3. In tweets containing 'bannon' find & print timestamp, identifier, Twitter handle, tweet content
4. Repeat for 'Comey'

For #MAGA: Do the same just for 'bannon'

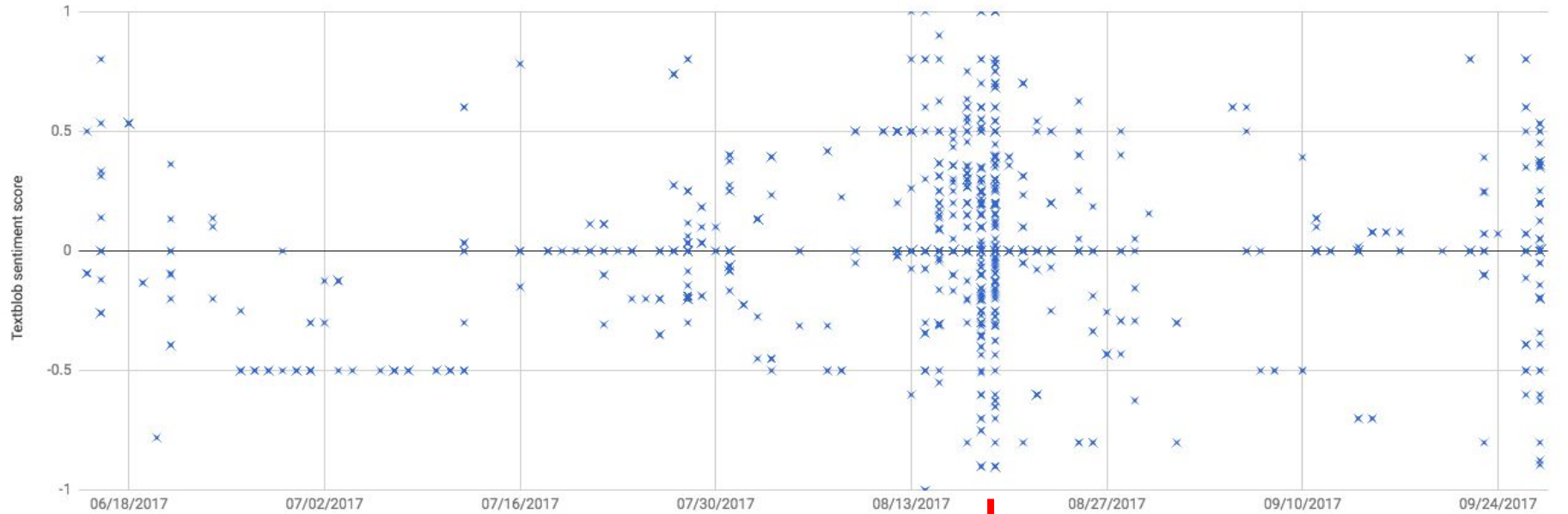# Data Breakdown for @realDonaldTrump Tweets

Data Breakdown for #MAGA tweets

#MAGA Tweets with Bannon: 159,172

Bannon Tweets without Emojis: 150,071

Bannon Tweets with Emojis: 9,101

Bannon-😂: 2,518
Bannon-😎: 2,364
Bannon-🤬: 2,344
Bannon-🙏: 542
Bannon-🙌: 333
Bannon-💃: 320
Bannon-😍: 181
Bannon-😔: 86
Bannon-😀: 56
Bannon-😭: 42
Other emojis with Bannon: 314

Emoji sentiment analysis - 'Bannon' in @RealDonaldTrump emoji tweets
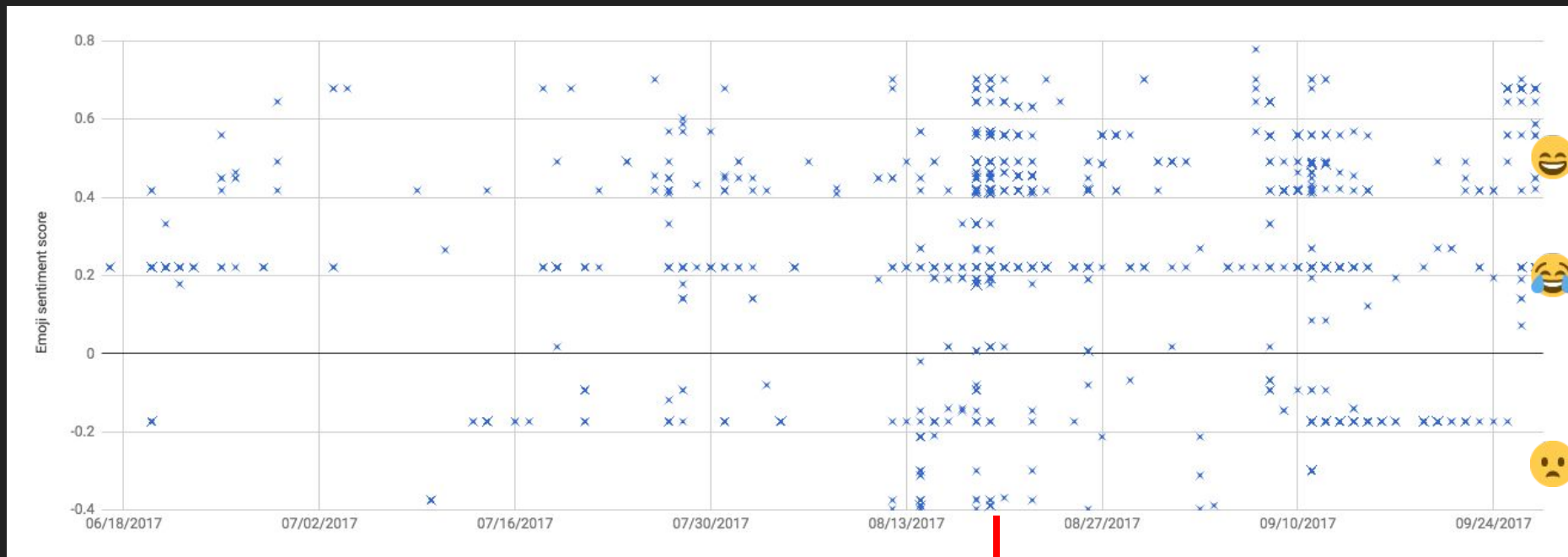

Steve Bannon fired by Trump

Textblob sentiment analysis - 'Bannon' in @RealDonaldTrump emoji tweets
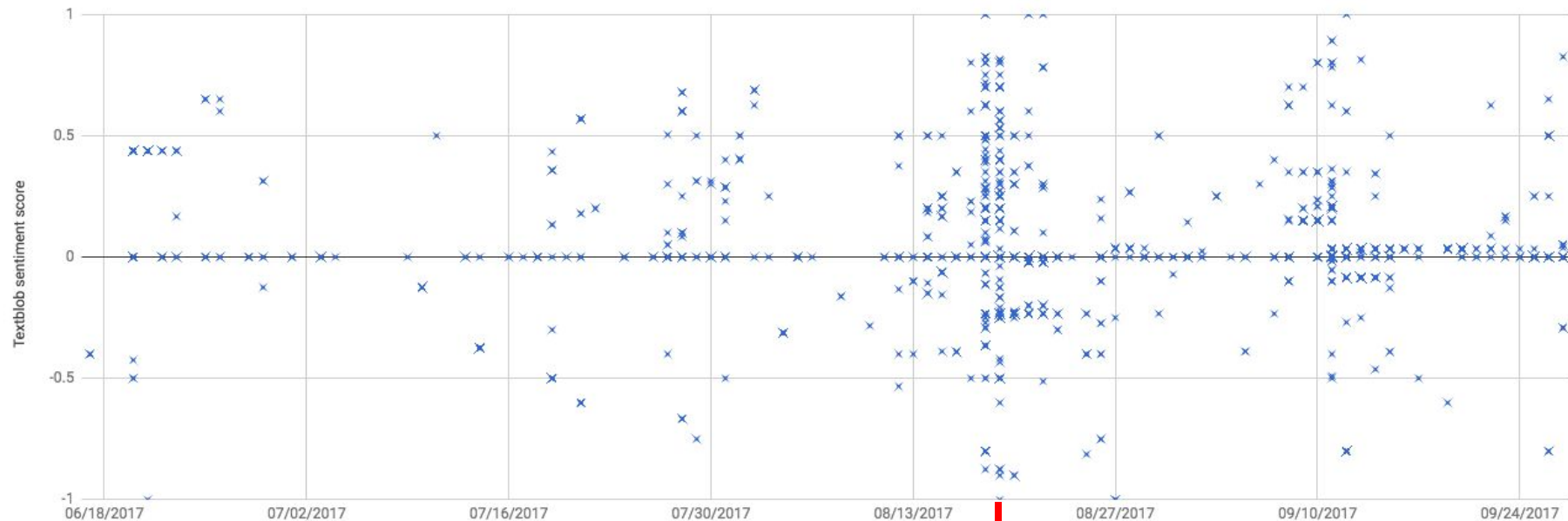

Steve Bannon fired by Trump

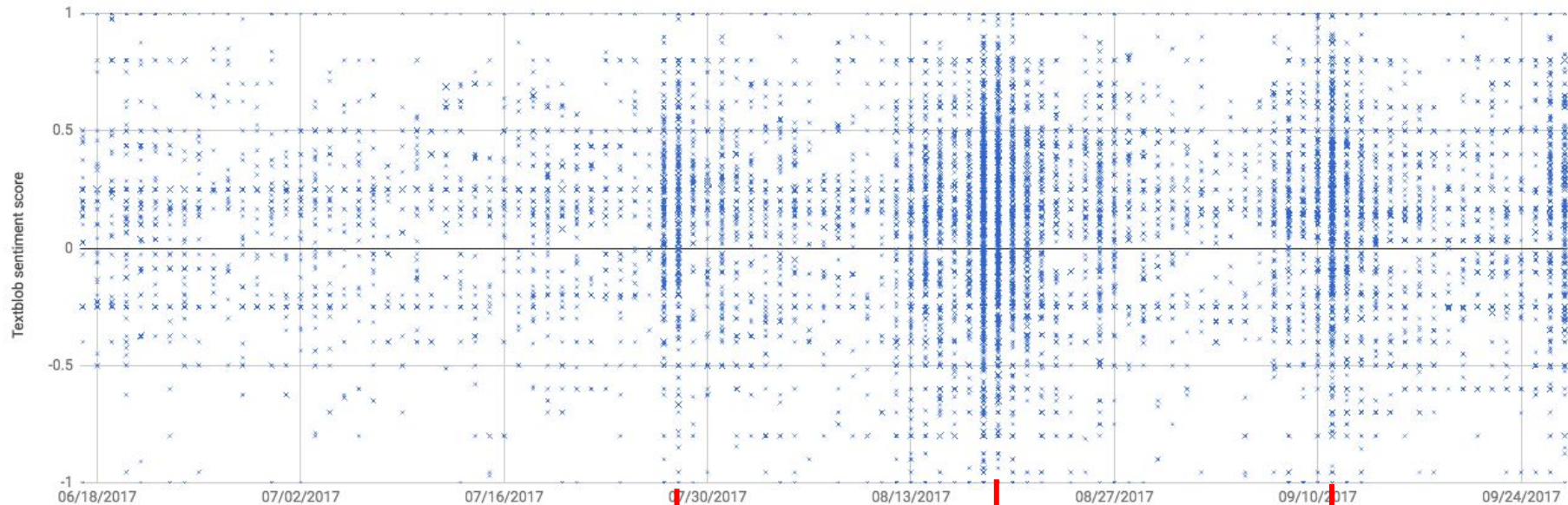# Emoji sentiment analysis - 'Bannon' in #MAGA emoji tweets

Steve Bannon fired by Trump

Textblob sentiment analysis - 'Bannon' in #MAGA emoji tweets

Steve Bannon fired by Trump

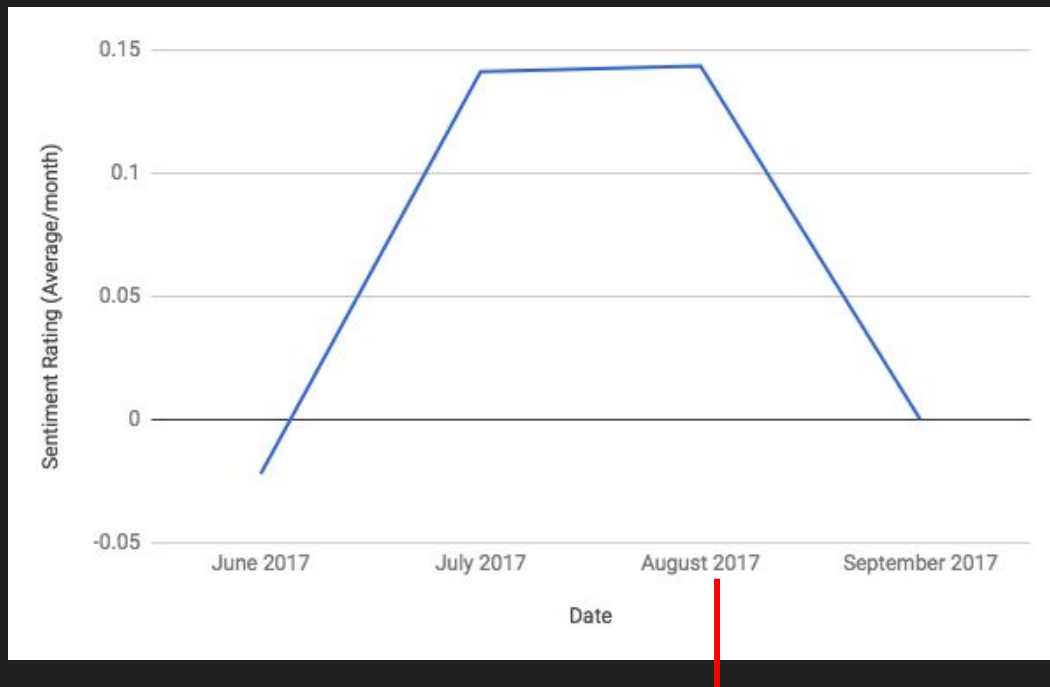# Textblob sentiment analysis - 'Bannon' in #MAGA all tweets

"Bannon Calls for 44% Tax on Incomes Above $5 Million". Bloomberg. July 26, 2017.
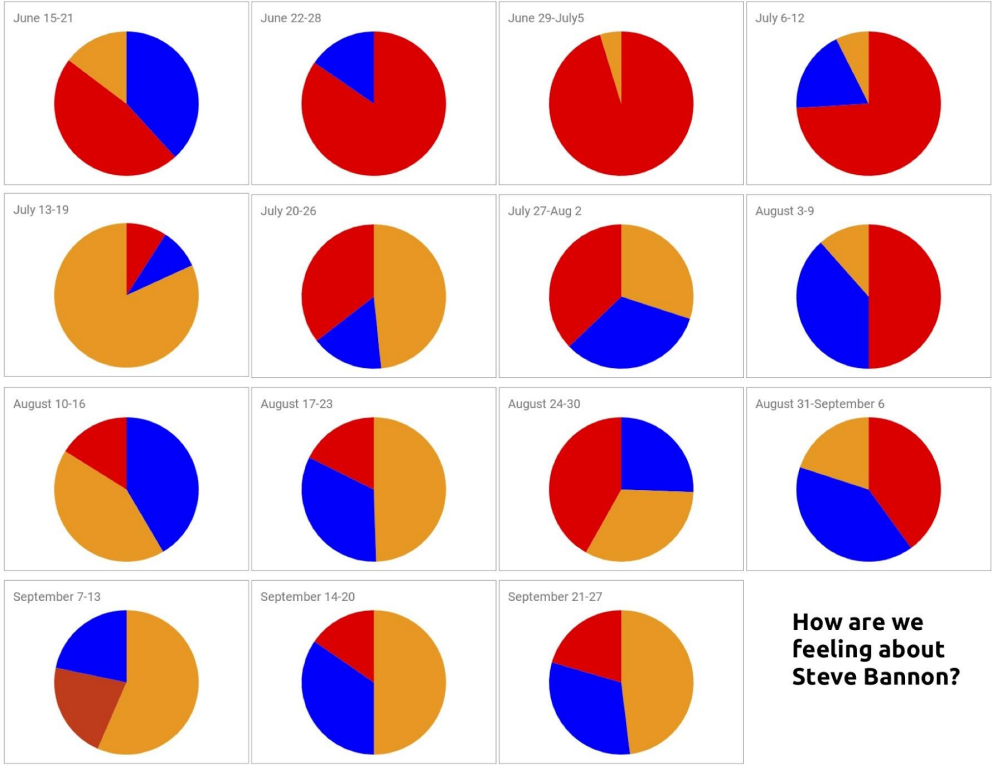
Steve Bannon fired by Trump

Tapper, Jake (September 11, 2017). "Source: Bannon and Allies Preparing Primary Challenges Against GOP Senators". CNN. Retrieved October 21, 2017.

Bannon All @realDonaldTrump Tweets - Mean Sentiment from Textblob
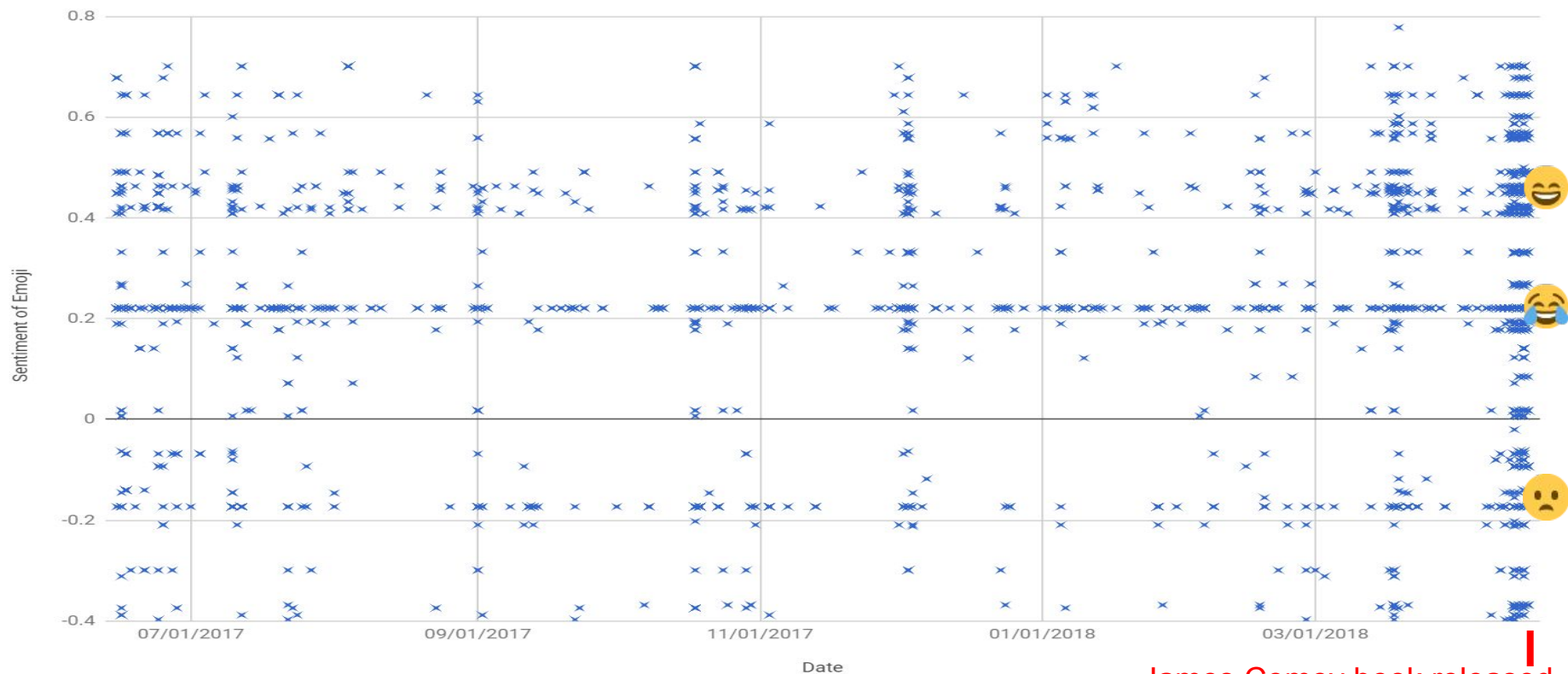

Steve Bannon fired by Trump

Textblob sentiment analysis - 'Bannon' in @RealDonaldTrump emoji tweets

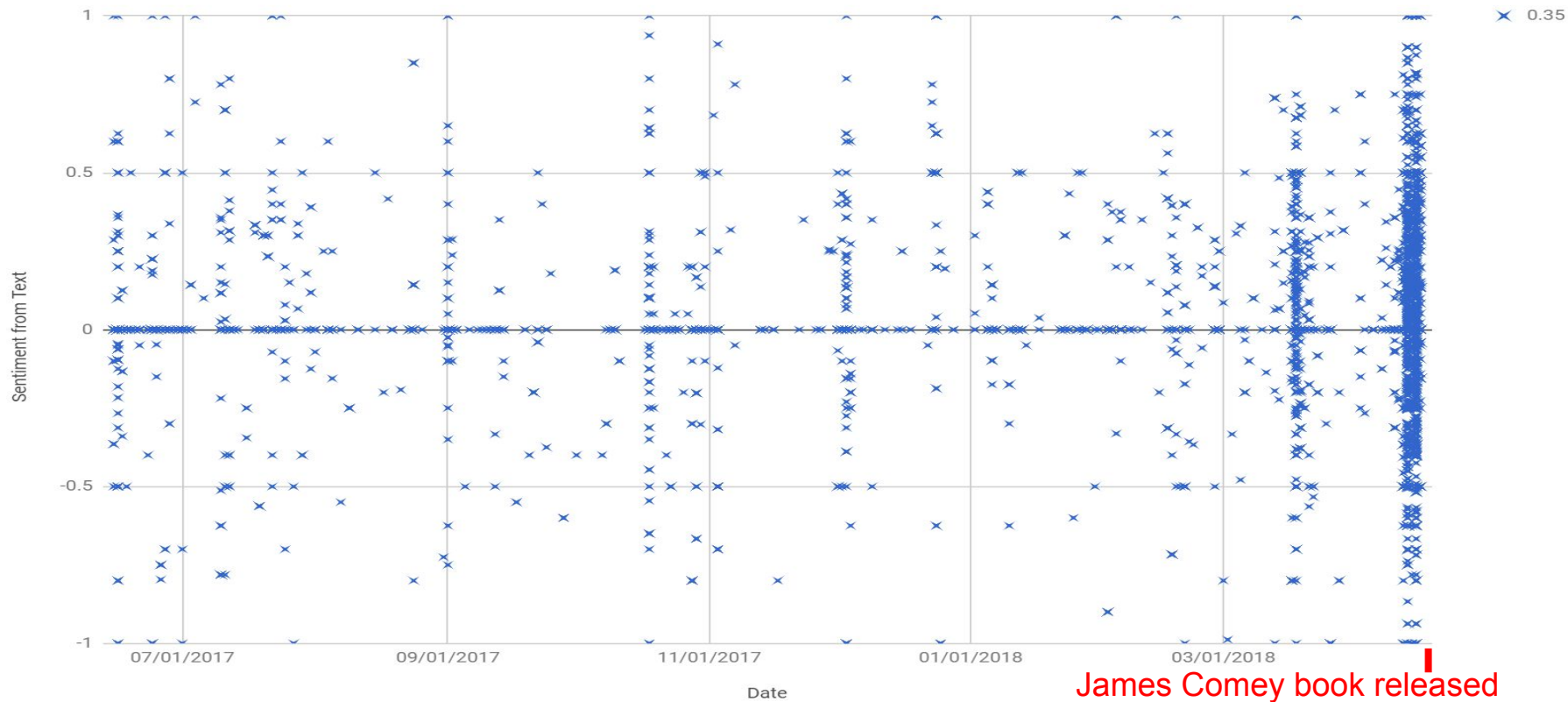Emoji sentiment analysis - 'Comey' in @RealDonaldTrump emoji tweets

James Comey book released

Textblob sentiment analysis - 'Comey' in @RealDonaldTrump emoji tweets

James Comey book released

Comey All @realDonaldTrump Tweets - Mean Sentiment from Textblob

Comey and Emoji - Sentiment from Textblob Rating

Caveats & Limitations

- We don't know the source of these sentiments (are they mad *at* DJT, or *with* him?)
- How people use emojis has changed very rapidly (emoji study was done in 2015)
- There are more positive emojis than negative emojis available

References

Gael Guibon, Magalie Ochs, Patric Bellot. From Emojis to Sentiment Analysis (2016) https://hal-amu.archives-ouvertes.fr/hal-01529708/document

Steven Loria. TextBlob: Simplified Text Processing http://textblob.readthedocs.io/en/dev/

Kralj Novak, Petra; Smailović, Jasmina; Sluban, Borut and Mozetič, Igor, 2015, *Emoji Sentiment Ranking 1.0*, Slovenian language resource repository CLARIN.SI, http://hdl.handle.net/11356/1048.

Kralj Novak P, Smailović J, Sluban B, Mozetič I (2015) Sentiment of Emojis. PLoS ONE 10(12): e0144296. https://doi.org/10.1371/journal.pone.0144296

Emojipedia. Emoji Sentiment Analysis 2015-2017 (2018) https://blog.emojipedia.org/emoji-sentiment-analysis-2015-2017/

Alexander Pak, Patrick Paroubek. (2010) Twitter as a Corpus for Sentiment Analysis and Opinion Mining. Proceedings of the Seventh conference on International Language Resources and Evaluation (LREC'10).   http://crowdsourcing-class.org/assignments/downloads/pak-paroubek.pdf

Wieslaw Wolny.　　　 (2016) *Sentiment Analysis of Twitter Data Using Emoticons and Emojis Ideogrames*. Studia Ekonomiczne http://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.cejsh-74a49185-95f0-4712-a09f-ced5bf5477f1/c/10.pdf

Waghode Poonam, Mayura Kinikar. *Twitter Sentiment Analysis with Emoticons*. (2015) International Journal of Computer Science. http://www.ijecs.in/issue/v4-i4/39%20ijecs.pdf