

# Analyzing Political Parody in Social Media

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# Parody in Social Media

- In February 2018 Nancy Pelosi and Elijah E. Cummings falsely referred to tweets from a parody account of Michael Flynn during a conference. \*
- The New York Times also had the tweets removed from a story taken from a parody account and then issued a correction.



**Not Michael Flynn**  
@GenMikeFlynn

While I accept full responsibility for my actions, I feel it is unfair that I have been made the sole scapegoat for what happened. (1/2)

775 7:58 AM - Feb 14, 2017

1,233 people are talking about this



**Not Michael Flynn**  
@GenMikeFlynn

But if a scapegoat is what's needed for this Administration to continue to take this great nation forward, I am proud to do my duty.

833 7:59 AM - Feb 14, 2017

1,267 people are talking about this

\*Source:

<https://www.washingtonpost.com/news/the-fix/wp/2017/02/14/nancy-pelosi-cited-a-fake-michael-flynn-tweet-today/>

# Parody

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- An entity is mimicked or imitated for comedic and amusing purposes
- Parody is found in Twitter through accounts that impersonate public figures
- **Political parody** offers interpretations of political personas

# Political Parody in Social Media

- **Identifying** parody and real tweets can be challenging
- **Topics and language** are intended to be **similar**
- Twitter only **allows** such accounts if they are **explicitly marked as parody**
- **Parody tweets** can be **misinterpreted as facts**



**Boris Johnson #StayAlert**

@BorisJohnson



Our NHS will never be on the table for any trade negotiations. We're investing more than ever before - and when we leave the EU, we will introduce an Australian style, points-based immigration system so the NHS can plan for the future.

Heart 4,849 2:04 PM - Nov 28, 2019



Comment 2,215 people are talking about this



**Parody Boris Johnson**

@BorisJohnson\_MP



People seem to be ignoring the many advantages of selling off the NHS, like the fact that hospitals will be far more spacious once poor people can't afford to use them. **#NHSNotforSale**

Heart 599 7:25 PM - Nov 27, 2019



Comment 199 people are talking about this



CAN YOU GUESS IF THIS TWEET IS:

PARODY

OR

REAL

?



The Republican Party, and me, had a GREAT day yesterday with respect to the phony Impeachment Hoax, & yet, when I got home to the White House & checked out the news coverage on much of television, you would have no idea they were reporting on the same event. FAKE & CORRUPT NEWS!



CAN YOU GUESS IF THIS TWEET IS:

~~PARODY~~

OR

REAL

?



Donald J. Trump

@realDonaldTrump



The Republican Party, and me, had a GREAT day yesterday with respect to the phony Impeachment Hoax, & yet, when I got home to the White House & checked out the news coverage on much of television, you would have no idea they were reporting on the same event. FAKE & CORRUPT NEWS!

12:32 PM · Nov 21, 2019



113.7K



51.8K people are talking about this

CAN YOU GUESS IF THIS TWEET IS:

PARODY

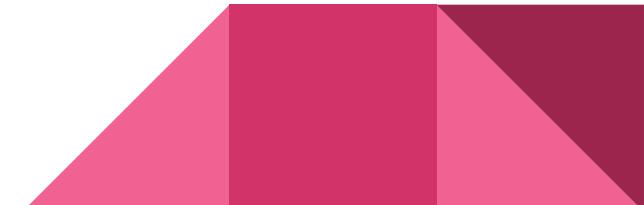
OR

REAL

?



Lies! Kampala Harris says my crimes are committed in plane  
site! She's lying! My crimes are ALWAYS hidden! ALWAYS!!  
[#DemocraticDebate](#)



CAN YOU GUESS IF THIS TWEET IS:



PARODY

OR



?



Donald J. Trump

@realDonaldTrump

parody



Lies! Kampala Harris says my crimes are committed in plane site! She's lying! My crimes are ALWAYS hidden! ALWAYS!!  
[#DemocraticDebate](#)

4,963 1:09 AM - Oct 16, 2019



997 people are talking about this



We aim to test the capacity of Natural Language Processing (NLP) and machine learning models on **automatically identifying political parody**.

Applications:

- automatic fact-checking
- rumor verification
- sentiment analysis
- nowcasting voting intention
- political communication
- linguistics
- network science

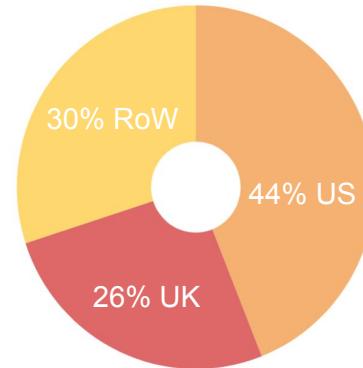
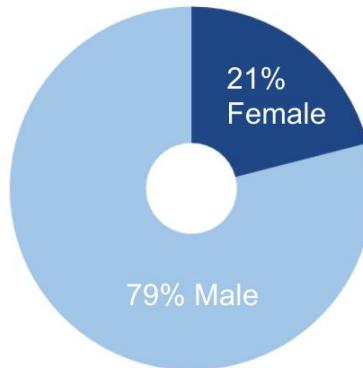
# Dataset Creation

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1. Using the Twitter API we query the terms: `parody`, `#parody`, `parody account`, `fake`, `#fake`, `fake account`, `not real` to retrieve candidate parody accounts according to Twitter's policy.
2. We manually inspected the tweets from each **collected parody account**
3. We found the **corresponding real account** for each parody account.

103 parody accounts

81 real accounts



# Dataset Creation

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- Collected all their **original tweets**
- **Balanced** the number of **real vs. parody tweets** within each person

Total 131 K Tweets

Table 1: Number of Tweets - Person Split

	Train	Dev	Test	Total
<b>Real</b>	51,460	6,164	8,086	65,710
<b>Parody</b>	51,706	6,164	8,086	65,956
<b>All</b>	103,166	12,328	16,172	<b>131,666</b>

# Models

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- Logistic Regression
- Recurrent-based
- Transformer-based

- LR-BoW
- LR-BoW-POS

- BiLSTM-Att
- ULMFit

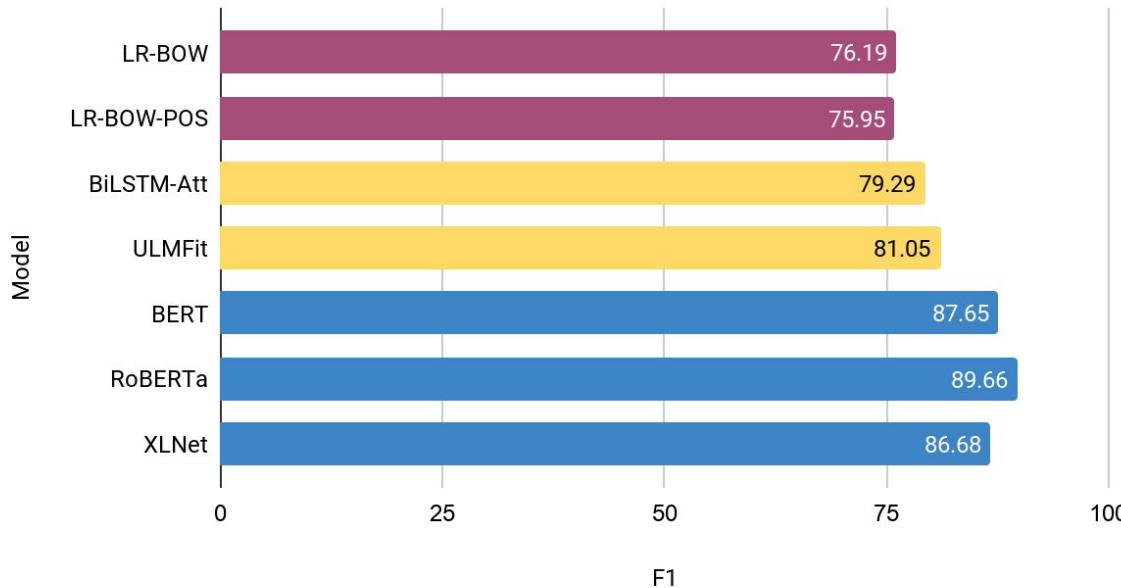
- BERT
- RoBERTa
- XLNet

# Results - Person Split

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- Trained on tweets from real and parody accounts
- Tested on tweets from unseen accounts (real and their parody)

F1 vs Model



# Location and Gender Splits

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## Location Split

- To control for topicality
  - politicians from the same country may discuss similar issues.

## Gender Split

- To detect parody from either female or male accounts

Results are presented in the paper

# Linguistic and Error Analysis

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- Calculate univariate Pearson correlation between each feature and the label (real or parody) for each tweet
- Analyze the limitations of our **best performing model (RoBERTa)**
- Show examples of model misclassifications.

# Parody Tweets

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- Singular pronouns: first-person ('I' versus 'we') and second-person ('you')

so this are if who  
mention but  
no not people what for my  
we can you on  
wa all your as on  
our will like of  
be is they he just  
have me it just  
about in with that  
do from



**Lockdown Angela**  
@Queen\_Europe

I mean, the Brexit Express literally appears to be going backwards but  
OK [twitter.com/SteveBakerHW/s...](https://twitter.com/SteveBakerHW/status/1108081111111111111)

945 12:59 PM - Mar 31, 2019

326 people are talking about this >

# Real Tweets

- More well-formed, better grammar and syntax

the by be on  
new <sup>wa</sup> can great  
your our in that  
from as <sup>people</sup> about  
mention  
for who at all thank  
we my it of ha  
hi today are their  
with is year not an you  
have more will

 **Chris Murphy**   
@ChrisMurphyCT



Rudy Giuliani is in Ukraine today, meeting with Ukrainian leaders on behalf of the President of the United States, representing the President's re-election campaign.

It's time to wake up.

The corruption didn't end when impeachment began.

IT

IS

ONGOING.

57.9K 9:08 PM - Dec 5, 2019 

20.5K people are talking about this 

# Parody Tweet Misclassified as Real

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Slogan or campaign speech

 **Secret Mitt Romney** 

@SecretMitRomney

It's up to you, America: do you want a repeat of the last four years, or four years staggeringly worse than the last four years?

9 2:57 AM - Oct 17, 2012 

 42 people are talking about this 

# Real Tweets Classified as Parody

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## Use of informal language by politicians



Barack Obama   
@BarackObama

It's the [#GimmeFive](#) challenge, presidential style. [ofa.bo/r5Tn](http://ofa.bo/r5Tn)

1,096 7:42 PM - May 14, 2015 

665 people are talking about this 

# Takeaways

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- We have introduced the **study of political parody in NLP**.
  - Applications: **fact-checking, rumour verification, and political communication.**
- We released a **public data set for parody detection**
- We demonstrated that we can **predict parody** from accounts unseen in training with high accuracy



[https://archive.org/details/parody\\_data\\_acl20](https://archive.org/details/parody_data_acl20)

## Q&A Sessions:

- **Tuesday, 7 July. 12:00 and 18:00 UTC (8A, 9B)**