

# 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.




\*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
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# Political Parody in Social Media

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- **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.

♥ 4,849 2:04 PM - Nov 28, 2019



💬 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](#)

♥ 599 7:25 PM - Nov 27, 2019



💬 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 ~~**REAL**~~ ?



**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



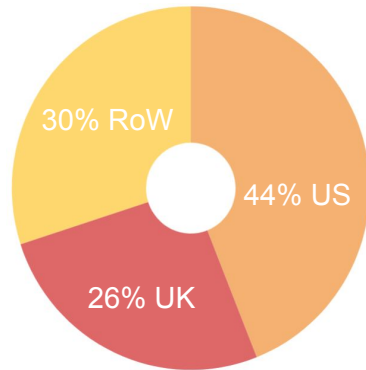
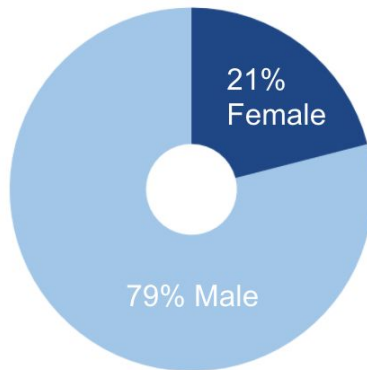
# Dataset Creation

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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**

	<b>Train</b>	<b>Dev</b>	<b>Test</b>	<b>Total</b>
<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

- LR-BoW
- LR-BoW-POS

- Recurrent-based

- BiLSTM-Att
- ULMFit

- Transformer-based

- BERT
- RoBERTa
- XLNet

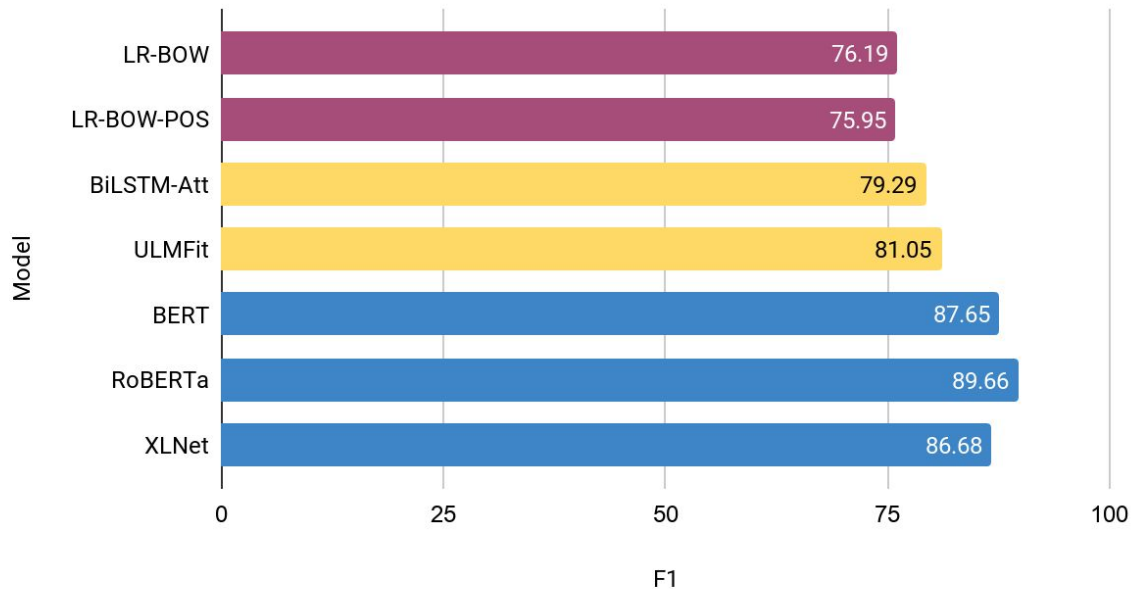


# Results - Person Split

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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')

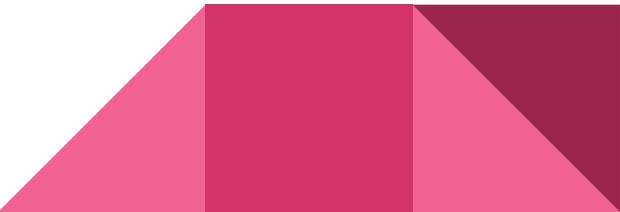


**Lockdown Angela**  
@Queen\_Europe

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

945 likes 12:59 PM - Mar 31, 2019

326 people are talking about this





# Real Tweets

- More well-formed, **better grammar and syntax**

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



A screenshot of a tweet from Chris Murphy (@ChrisMurphyCT) dated December 5, 2019, at 9:08 PM. The tweet text is: "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." The words "today," "meeting," "on," "of," and "of" are highlighted with red boxes. Below the text, it says "It's time to wake up." and "The corruption didn't end when impeachment began." followed by "IT IS ONGOING." The tweet has 57.9K likes and 20.5K replies. The interface includes a profile picture, name, handle, and a Twitter bird icon.

 **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



# 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

## Q&A Sessions:

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



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