

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

- 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

- **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:

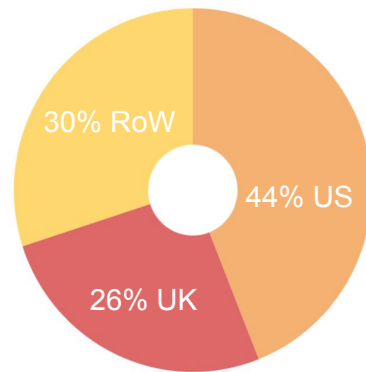
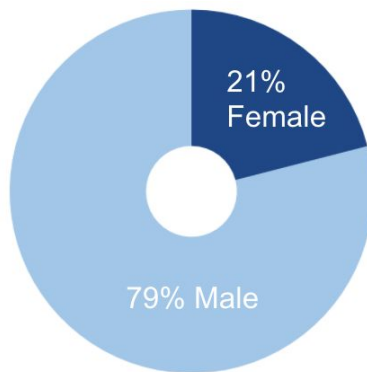
- automatic fact-checking
 - rumor verification
 - sentiment analysis
 - nowcasting voting intention
 - political communication
 - linguistics
 - network science
- 

Dataset Creation

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

- 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
Real	51,460	6,164	8,086	65,710
Parody	51,706	6,164	8,086	65,956
All	103,166	12,328	16,172	131,666

Models

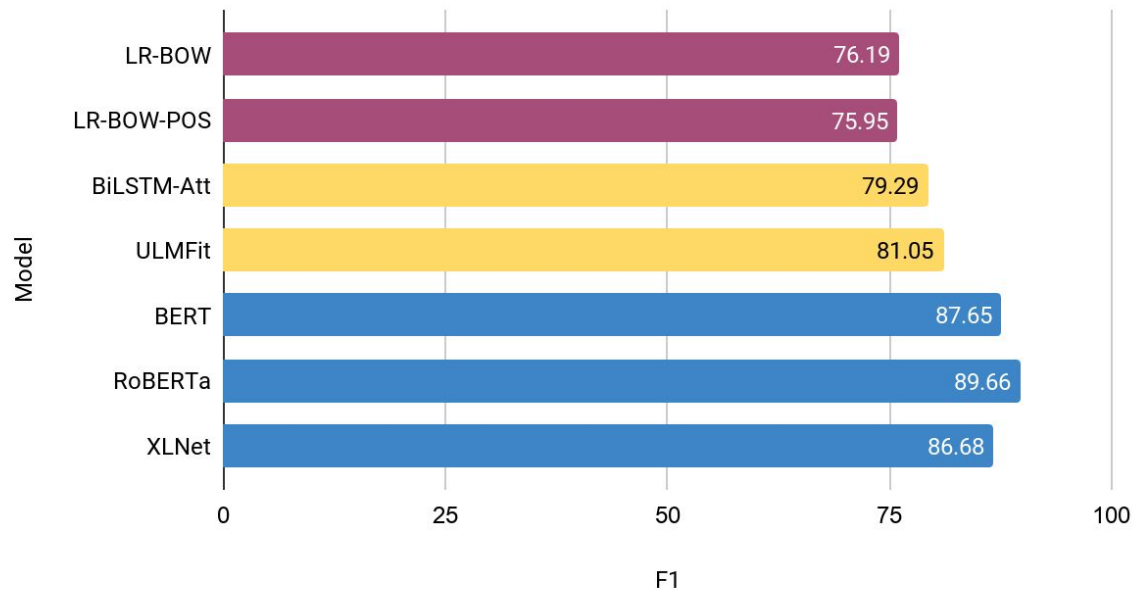
- Logistic Regression
 - LR-BoW
 - LR-BoW-POS
- Recurrent-based
 - BiLSTM-Att
 - ULMFit
- Transformer-based
 - BERT
 - RoBERTa
 - XLNet



Results - Person Split

- 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

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

- 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.



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 an you
have more will



A screenshot of a tweet from Chris Murphy (@ChrisMurphyCT) dated December 5, 2019. The tweet text is: "Rudy Giuliani is in Ukraine today, meeting with Ukranian 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.

 **Chris Murphy** 
@ChrisMurphyCT 

Rudy Giuliani is in Ukraine today, meeting with Ukranian 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.

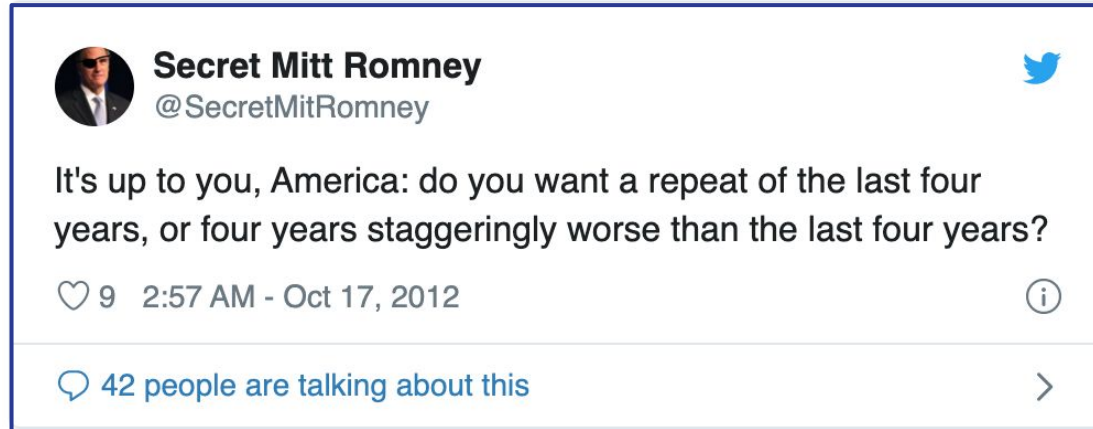
IT
IS
ONGOING.

 57.9K  9:08 PM - Dec 5, 2019 

 20.5K people are talking about this 

Parody Tweet Misclassified as Real

Slogan or campaign speech



Real Tweets Classified as Parody

Use of informal language by politicians



A screenshot of a tweet from Barack Obama. The tweet is enclosed in a dark blue border. It features Barack Obama's profile picture, name, and handle. The text of the tweet is "It's the #GimmeFive challenge, presidential style. ofa.bo/r5Tn". Below the text, it shows 1,096 likes and the time "7:42 PM - May 14, 2015". At the bottom, it says "665 people are talking about this" with a right-pointing arrow.

 **Barack Obama** 
@BarackObama 

It's the #GimmeFive challenge, presidential style. ofa.bo/r5Tn

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

 665 people are talking about this 

Takeaways

- 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