



# Lying about Lying on Social Media: A Case Study of the 2019 Canadian Elections

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<http://www.casos.cs.cmu.edu/>



## A new social media phenomenon is emerging on lying about lying

- Users are lying about not being “bots” on Twitter
  - A higher proportion of those users are bots than the general population
  - These users amplify misinformation campaigns
- Users are saying certain mainstream news sources, reporters, or individuals are #FakeNews more often than on actual fake news
- This new defensive strategy shows how campaigns continue to evolve

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## Why should we care?

- There's widespread concern since 2016 that foreign actors are trying to increase division and spread misinformation in democratic nations

The diagram features a central circle with the words "YOUR VOTE" in white, set against a red and white striped background with stars. Eight arrows point from this center to surrounding boxes, each containing a different tactic:

- "Deepfake" videos
- Unwitting protesters
- Phony memes on Instagram
- WhatsApp scare tactics
- Hostile Russians and Iranians
- Domestically generated distortions
- For-profit manipulation services
- Digital voter suppression

New York University published a report Tuesday entitled Disinformation and the 2020 Election: How the Social Media Should Prepare. (Image: screenshot of report)

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## 2019 Canadian Federal Election

**Bank** The election was held in October 2019 to elect members of Parliament This was a referendum on Prime Minister Trudeau and his Liberal Party

**Double Quotes** The #TrudeauMustGo twitter movement was amplified by bots and often paired with #NotABot Journalists suspected that #NotABot was used disingenuously

**Newspaper** The “fake news” phrase has been used to discredit true news stories and political opponents This term is used by both malicious actors and regular people

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ABOUT NEWS OPINION ANALYSIS FEATURES SPECIAL REPORTS MULTIMEDIA DONATE ETHICS

The hashtag cloud for #NotABot clearly shows that the hashtag is being used almost exclusively in reference to #TrudeauMustGo and associated hashtags, including #ButtsMustGo and #LiberalsMustGo.



A hashtag cloud for #NotABot shows that the hashtag is highly correlated with #TrudeauMustGo, indicating that the first hashtag is being used almost exclusively in reference to the second. (Photo: Screenshot).

Golberg also noted that he often observes inauthentic activity and other forms of social media manipulation surrounding hashtags like #NotABot.

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## Twitter data related to the election was collected

- Collected streaming tweets matching a set of search terms
  - July 2019 through November 2019
  - Yielded 16+ million tweets written by 1.3+ million users using over 137,000 hashtags

2019 Canadian Election Twitter Search Terms
#TrudeauMustGo, TeamTrudeau, trudeau, #Election2019, #elxn43, #chooseforward, #onpoli, #ItsOurVote, #lpc, #ndp, #cpc, #gpc, #NotAbot, #cdnpoli, #ButtsMustGo, #LavScam, #LiberalsMustGo, BlocQuebecois, #blocqc, cccr2019, #NoTMX, #TMX, #TransMountain, scheer, dougfard, fordcutshurt, fordissfailing

Table 1: The list of search terms used to gather the Twitter data set on the 2019 Canadian election.

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## Two groups of hashtags were identified for further study

Fake-News Hashtags		Not-A-Bot Hashtags	
Hashtag	Number of Tweets	Hashtag	Number of Tweets
#fakenews	9,741	#notabot	45,605
#fakenewsmedia	3,287	#iamnotabot	921
#fakenewscbc	70	#imnotabot	142
#fakenewsandy	62	#teamnotabot	62
#cbcisfakenews	59	#stillnotabot	53

Table 2: The most used hashtags included in the fake-news and not-a-bot groups.

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## The data was augmented with bot identification

- Tier 1 BotHunter algorithm developed by Beskow and Carley determines the probability that an account was run by a bot
- The algorithm considers:
  - Screen name length
  - Number of tweets
  - Number of friends and followers
  - Content of a tweet
  - General timing of tweets
- Likely organizational accounts were removed
- We use a probability threshold ranging from 0.6 to 0.8 throughout

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## The likely targets of the #FakeNews were determined

- For each tweet, the set of targets was the union of:
  - The users mentioned in the tweet
  - The author of the original tweet if the tweet is a reply
  - The websites linked to in the tweet (if they belong to a potential target)
  - The specific targets of fake-news hashtags (ex: #fakenewscbc is likely targeting the Canadian Broadcasting Corporation)
- Potential targets included political organizations, news, politicians, and reporters

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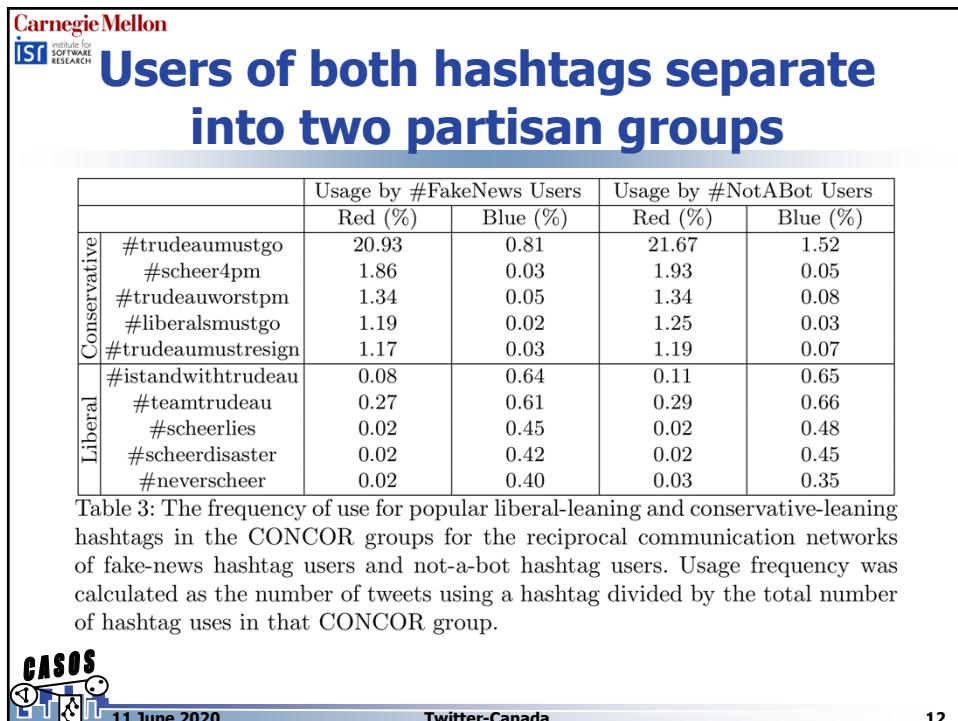
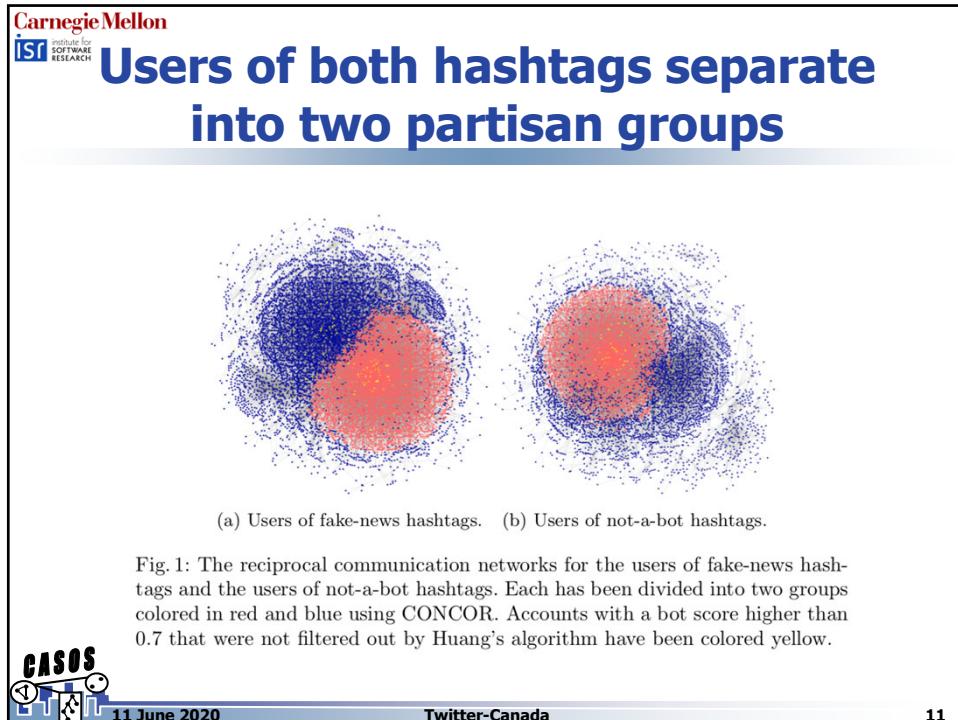
## The most targeted are mainstream news agencies and politicians

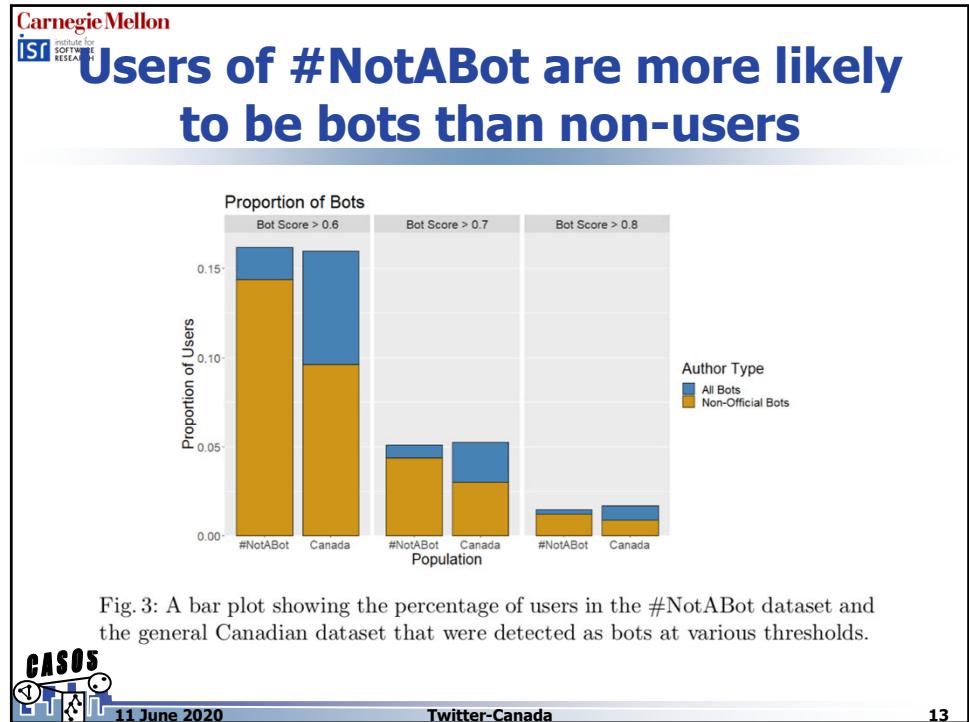
Target	All #FakeNews Tweets	Bot Score > 0.6	Bot Score > 0.7	Bot Score > 0.8
CBC	~750	~100	~50	~20
Amy MacPherson	~550	~150	~50	~20
Andrew Scheer	~650	~100	~50	~20
CTV News	~550	~100	~50	~20
Donald Trump	~450	~80	~50	~20
Justin Trudeau	~300	~50	~30	~20
Catherine McKenna	~280	~30	~20	~20
Toronto Star	~280	~30	~20	~20
Chrystia Freeland	~280	~30	~20	~20
Global News	~250	~30	~20	~20
Other (Average)	~20	~0	~0	~0

Fig. 2: A plot showing how many times an entity was targeted using a fake-news hashtag by normal users and bots detected with various BotHunter thresholds.

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## Users of #NotABot are more likely to be bots than non-users

Bot Threshold	All Bots			All Non-Official Bots		
	#NotABot	Canada	P-Value	#NotABot	Canada	P-Value
≥ 0.60	16.21%	15.97%	0.545	14.38%	9.59%	2.2e-16
≥ 0.70	5.10%	5.25%	0.540	4.38%	3.00%	1.925e-14
≥ 0.80	1.47%	1.70%	0.104	1.22%	0.87%	0.00043

Table 4: The percentage of users in the #NotABot group and the rest of the Canadian users that are over the three different bot score thresholds. The p-value is associated with the 2-sample proportion test for equality.

- We ran a Mann-Whitney U Test to test if the distribution of two populations is the same, which was also highly significant

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## Users of #NotABot are more likely to be bots than non-users

	Minimum	First Quartile	Median	Mean	Third Quartile	Maximum
#NotABot Users	2.66%	29.20%	42.74%	42.56%	55.01%	99.80%
Canadian Users	1.01%	27.00%	40.99%	41.20%	54.49%	100.00%

Table 5: The summary statistics for the bot scores in the #NotABot group and the rest of the Canadian users.

- The difference in the mean and median bot scores for the two groups is ~2%, with the #NotABot users more likely to have higher bot scores

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## Discussion

- Large and established news agencies are the most targeted with accusations of spreading #FakeNews
- Accusations calling something “fake” are coming from both liberal and conservative leaning users
- Using not-a-bot hashtag is not a reliable signal for indicating that one is not a bot
- Both networks of hashtag users show a strong partisan divide

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## Limitations

- The Twitter sample may not be representative of the entire Twitter conversation surrounding the election
- The method for determining fake news target is a reasonable heuristic but may not catch all targets
- The Not-A-Bot analysis is based on probabilities rather than certainties that an account is a bot
- These results may hold for other elections in similar countries, but circumstances or misinformation strategies may quickly evolve



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## Future Work

- Build on this set of hashtags to investigate how lying about lying continues to evolve over time or in different countries
- Examine these hashtags in non-political contexts
- Investigate how much of an impact these hashtags are having on human behavior → do other users believe them?



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## Conclusion

- Our work describes new tactics being used to influence elections
- Mainstream news organizations are being labeled as “fake news” at higher rates than fake or satirical sites
- A Twitter user claiming to not be a bot was more likely to actually be a bot



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## Questions?

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