Exploring Russian Influence Campaigns Over Time on Reddit

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Agenda

• Overview of Reddit
• Discovery of Russian Troll Accounts
• Data Acquisition
• Exploratory Data Analysis
• ORA Import and Analysis
  – Key Functions: Grouping, visualizations, and matrix multiplication
• Conclusions about Campaigns
What is Reddit?

- Reddit is the 6th most popular website in the USA with users averaging 11 minutes and 28 seconds on the site every day.
- Globally it’s the 20th most visited site in the world.
- Users are 71% male, and 59% are between the ages of 18 and 29.
- Users are highly reliant on the platform for news. - 45% of all Reddit users reported “learning something about the presidential campaign or candidates on the site in a given week”

How do users interact with Reddit?

- Over a million distinct subcommunities, called subreddits, exist.
- Community members can ‘upvote’ or ‘downvote’ new content.
- A post or comment’s ‘score’ is the number of upvotes it receives minus its downvotes.
- ‘Karma’ is a sum of a user’s post and comment scores.
- Posts can be ‘gilded’ by users for money.
Reddit has seen significant foreign intervention in recent years.

- Reddit’s 2017 transparency report found 944 accounts on the platform associated with Russia’s Internet Research Agency (IRA).
  - Posts went as far back as 2011.
- In 2019, 61 more accounts were found under Russian control.

Data Collection

- Reddit kept the posts from the troll accounts, but the accounts were suspended and unable to make any future posts.
- Using the publicly-accessible list, all of the posts from the users was pulled using the Reddit API.
Data Cleaning

- Posts from the 944 IRA accounts
  - Initially pulled 5,258 posts
  - Ranged from 2011 to 2018
  - Once the “this account is banned” posts were removed, the dataset consisted of 4,320 posts.

- Posts from the 61 Russian accounts
  - Dataset consisted of 176 posts
  - Ranged from 2017 to 2019

Reddit campaigns surrounding the 2016 elections shed light on their mission.
Campaigns changed over time and shifted the focus from certain groups to others.

Campaign 1 : Pre-2016

- 165 authors
- 2,602 posts
- Score of 334,800
- 22,133 comments
- Many posts in the “Animals” group also to “Funny” and “Political”
Campaign 1 : Pre-2016

- The user with the most animal posts posted exclusively in 2015
  - r/cats, r/AnimalsBeingBros, r/aww, r/foxes, r/Hedgehog, and r/puppies
- Then started to sprinkle in political posts to news subreddits, planting seeds of doubt in American institutions
  - “Things are bad and getting worse for Jeb Bush.”
  - “Student’s violent arrest caught on video; office under investigation.”

Campaign 2 : 2016 – mid 2017

- 106 authors
- 1,134 posts
- Score of 180,510
- 7,708 comments
- Groups that receive more traction are posts to Black interest subreddits as well as Military and Police and Political subreddits
Campaign 2: 2016 – mid 2017

- Some posts are supportive of African-American culture
  - “South Africa’s first black female pilot is inspiring girls to aim high”
- However, the majority of these posts were posting polarizing content about police brutality
  - “COPS SADISTICALLY TASER A COMPLIANT BLACK MAN”

- One user posted to all of these regional locations’ subreddits
  - Posts about regional police brutality just before the 2016 election
Campaign 3 : mid 2017-2018

- 53 authors
- 684 posts
- Score of 22,421
- 2,485 comments
- Decrease in political posts (as well as no posts to the Black-interest, Religion, and Military and Police groups)
- Increase in posts to Bitcoin and Technology subreddits

Trolls have had success in the past influencing stock prices on Reddit.

“...”
Campaign 4

- 43 authors
- 175 posts to 79 subreddits
- Scores of 1,905
- Utilized a different set of categories
  - Most posts were to European (in particular Ukraine, Germany, and France), Latin American, and World political groups
  - Some posts to African, Asian, and USA-related subreddits
  - A series of posts to German subreddits were made following the 2017 German federal election
  - Other posts centered around the impact of Brexit on other countries like Spain

ORA Application
Campaign 1 started with a mix of political and animal photos but Campaign 2 shifted towards more polarizing political topics.

Campaign 3 shifted towards Bitcoin and Technology while Campaign 4 was targeting international subreddits.