



Exploring Russian Influence Campaigns Over Time on Reddit

Christine Sowa
csowa@andrew.cmu.edu



Center for Computational Analysis of
Social and Organizational Systems
<http://www.casos.cs.cmu.edu/>



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



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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"

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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.

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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.

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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.

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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

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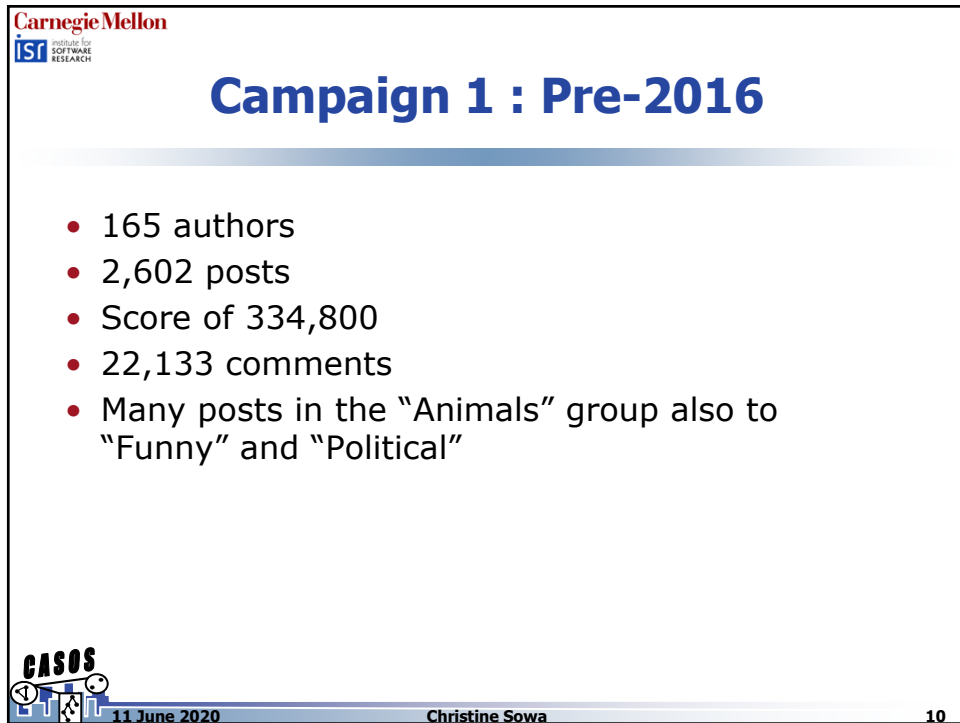
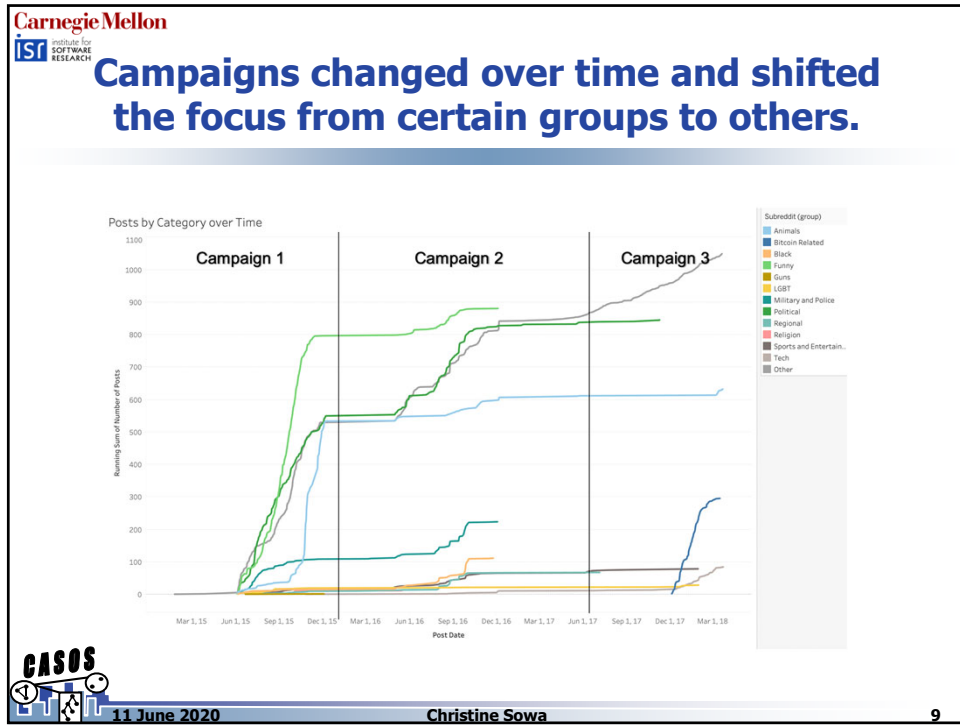
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Reddit campaigns surrounding the 2016 elections shed light on their mission.

Karma by User over Time

The chart displays the 'Running Sum of Score' (Karma) for multiple users across three distinct time periods. Campaign 1 shows a cluster of users with karma increasing from near zero to between 5K and 30K by late 2015. Campaign 2 features a prominent spike where one user's karma reaches 55K in late 2016, while others reach between 10K and 25K. Campaign 3 shows more gradual and lower karma accumulation, with most users staying below 10K through early 2018.

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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."

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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

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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”

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Campaign 2 : 2016 – mid 2017



The map shows the United States and parts of Canada. Red location pins are placed on the following cities: San Francisco, Los Angeles, San Diego, Las Vegas, Dallas, Houston, Chicago, Philadelphia, New York, and Toronto. The pins are distributed across the western, central, and eastern parts of the United States, as well as in Canada.

- One user posted to all of these regional locations' subreddits
- Posts about regional police brutality just before the 2016 election

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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

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



- “When shares keep rising, managing the hedge entails buying more stock. That’s where the Reddit set perceives a weakness. A favorite tactic on r/WSB is to swamp the market with call purchases early in the morning in an attempt to force dealers to keep buying stock. Up and up everything goes—supposedly. As the stock price rises, so does the value of the calls, often by far more.”

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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

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ORA Application

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