




A Security Analysis of Facebook's Political Ad Library

Laura Edelson
11/13/2019


Background

Russian Disinformation on Facebook during 2016 election

Suggested Page

 **Woke Blacks**
Sponsored

Staying Woke, building-up our communities, uplifting our people. Join us!



Woke Blacks
Community
82,612 people like this.

Like Page

 **Being Patriotic** shared their event.
Sponsored · 🌐

Hillary Clinton is the co-author of Obama's anti-police and anti-Constitutional propaganda




JUL 23 **Down With Hillary!**
Sat 1 PM EDT · 1 Pierrepont Plz, New York City, ... Interested

180 people interested · 45 people going


763 Reactions 76 Comments

Like Comment

Suggested Page

 **Defend the 2nd**
Sponsored

The community of 2nd Amendment supporters, guns lovers & patriots




DEFEND THE 2ND


Defend the 2nd
Community
96,678 people like this.

Like Page

Suggested Page

 **Back the Badge**
Sponsored

Community of people who support our brave Police Officers.



BACK THE BADGE

Back the Badge
Community
111,113 people like this.

Like Page

Russian Disinformation on Facebook during 2016 election

 **BM** shared their event.
 Sponsored · 🌐

People are genuinely scared for their futures!
 Racism won, Ignorance won, Sexual assault won
STOP TRUMP! STOP RACISM! JOIN THE PROTEST at Union Sq.
 Saturday 12 PM
 Bring signs, snacks, water!



NOT MY PRESIDENT
 November 12, 12 PM. Union square, NYC

NOV 12 **Trump is NOT my President. March aga...**
 Sat 12 PM EST · Union Square - 14th & Broadwa...
 33,140 people interested · 16,760 people going

Like Comment

Suggested Page

 **Back the Badge**
 Sponsored

Community of people who support our brave Police Officers.



Like Page

 **Williams & Kalvin**
 Sponsored · 🌐

Danney Williams, 30, has been trying since at least 1999 to be acknowledged as the out-of-wedlock son of former President Bill Clinton and a black prostitute in Little Rock, Arkansas.

Subscribe to our channel:
<https://www.youtube.com/channel/UCSbzPCwUDPvDcR6VRaOcDtg>
 Follow my Facebook: <https://www.facebook.com/WilliamsandKalvin...>
[See More](#)



35 Reactions 15 Comments 29 Shares

Like Comment Share

 **United Muslims of America**
 Sponsored · 🌐

It was a powerful moment in an America that has seen hate crimes against Muslim Americans triple since November. In an America where the Republican political party had a 44% very unfavorable view of Islam, despite 78% of the same Republican respondents saying they neither worked with nor had any Muslim friends, according to a YouGov poll conducted from 6-9 March, 2015. In an America where failed businessman and top contender for the GOP nomination Donald Trump has publicly a... [See More](#)



Sanders Win With Help From Arab And Muslim Americans Is No Surprise

93 Reactions 6 Comments 20 Shares

Like Comment Share

- **Restrictions on Political Advertisers**
 - Facebook, Google, and Twitter begin some form of disclosure of payers for political advertising
 - Major platforms began some form of verification of identity of political advertisers
 - Major platforms place restrictions on who can pay for political advertising, usually geographic

- **Transparency Archives for Political Content**
 - Facebook Ad Archive launched May 7th, 2018
 - Google Political Ad Transparency dataset launched May 31st, 2018
 - Twitter Ad Transparency Center launched June 28th, 2018

Facebook

- Platforms: Web Portal and API
- Accessible to any ID verified user who agrees to Terms of Service
- Data available:
 - Ad Creative Text/Image/Video
 - Impression & Spend (Bucketed)
 - Demographic & Geographic distribution of impressions
 - Advertiser-specified start date, end date, disclosure string
 - Page that the ad ran against

Google

- Platforms: Web Portal and Big Query dataset
- Accessible to anyone, no login required
- Data available:
 - Link to composed Ad for non-Third Party ads
 - Impression & Spend (Bucketed)
 - Demographic & Geographic targeted groups
 - Start & End date
 - Vetted Advertiser identifying information (FEC id, EIN)

Twitter

- Platforms: Web Portal only
- Accessible to anyone, no login required
- Data available:
 - Ad Creative Text/Image/Video
 - Exact Impression & Spend
 - Demographic & Geographic distribution of impressions
 - Start & End date
 - Billing information for Ad payer
- **No longer accepting political advertising as of Nov. 22nd, 2019**

Facebook:

- **\$888M since May, 2018 in the United States**

Google:

- **\$126M since May, 2018 in the United States**

Twitter:

- **<\$5M since June, 2018 in the United States**

Facebook Ad Archive Overview

In the United States, advertisers are required to

- **Disclose ads about “Social Issues, Elections, or Politics”¹**
- **Provide an accurate disclosure string naming the entity that paid for the ad, conforming to a standard format**

¹ <https://www.facebook.com/business/help/198009284345835>

NYU



~670 results


Search results display ads with text that matched your keyword search term. Only ads about social issues, elections or politics are included.

Filter By:
United States
Active and Inactive
All Impressions
All Pages
All Disclaimers
All Platforms

Launched November 2019

Active
 Started running on Nov 7, 2019
 ID: 467052817245888

About social issues, elections or politics


The Lawfare Project
 Sponsored • Paid for by The Lawfare Project


If you've experienced antisemitism at NYU, contact The Lawfare Project today. We can help!

Contact Us Today
 The Lawfare Project provides guidance and legal assistance to students, professors, and campu... [Learn More](#)
 THELAWFAREPROJECT.ORG

[See Ad Details](#)

Active
 Started running on Nov 7, 2019
 ID: 466682317539625


About social issues, elections or politics


The Lawfare Project
 Sponsored • Paid for by The Lawfare Project


If you've experienced antisemitism at NYU, contact The Lawfare Project today. We can help!

Contact Us Today
 The Lawfare Project provides guidance and legal assistance to students, professors, and campu... [Learn More](#)
 THELAWFAREPROJECT.ORG

[See Ad Details](#)


The Lawfare Project
 Sponsored • Paid for by The Lawfare Project
 ID: 467052817245888

If you've experienced antisemitism at NYU, contact The Lawfare Project today. We can help!




Contact Us Today
 The Lawfare Project provides guidance and legal assistance to students, professors, and campus groups who are the
[Learn More](#)
 THELAWFAREPROJECT.ORG

About the disclaimer
 When an advertiser categorizes their ad as being about social issues, elections or politics, they are required to disclose who paid for the ad.
[Learn more](#)

Information from the advertiser

About the Page


The Lawfare Project
[View more ads from this Page](#)

Total spent by Page on ads about social issues, elections or politics
 May 2018 - Nov 10, 2019
 United States
\$963
[See spend details](#)

Recently spent by Page on ads about social issues, elections or politics

Data About This Ad

● Active
 Started running on Nov 7, 2019
 ID: 467052817245888

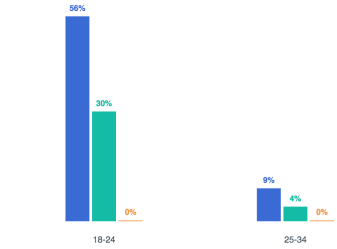
10K - 15K
 Impressions

\$100 - \$199
 Money spent (USD)

Who Was Shown This Ad

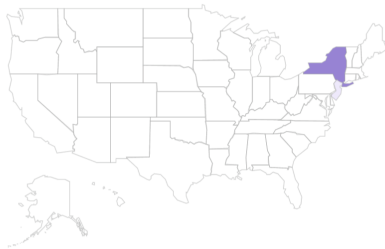
Age and Gender

Men Women Unknown



Age Group	Men	Women	Unknown
18-24	56%	30%	0%
25-34	9%	4%	0%

Where This Ad Was Shown



Facebook Ad Library Report

United States

Explore, filter and download data for ads about social issues, elections or politics. See overall spending totals, spending by specific advertisers and spend data by geographic location.

This publicly accessible report is part of Facebook's efforts to increase transparency in advertising.



Ad Library totals

Includes ads about social issues, elections or politics (since May 2018)

Total number of ads in the Ad Library

5,598,150

Total amount spent

\$887,769,277

Facebook Ad Library API gives access to the same dataset as the Web Portal

- **Searchable by keyword string or page id**
- **No direct access to images or videos, but these can be collected from a link provided by the API**
- **Most data provided through the Web Portal is available through the API, with the exception of Active status and whether the ad has been removed for a policy violation**

Security of Facebook's Ad Library

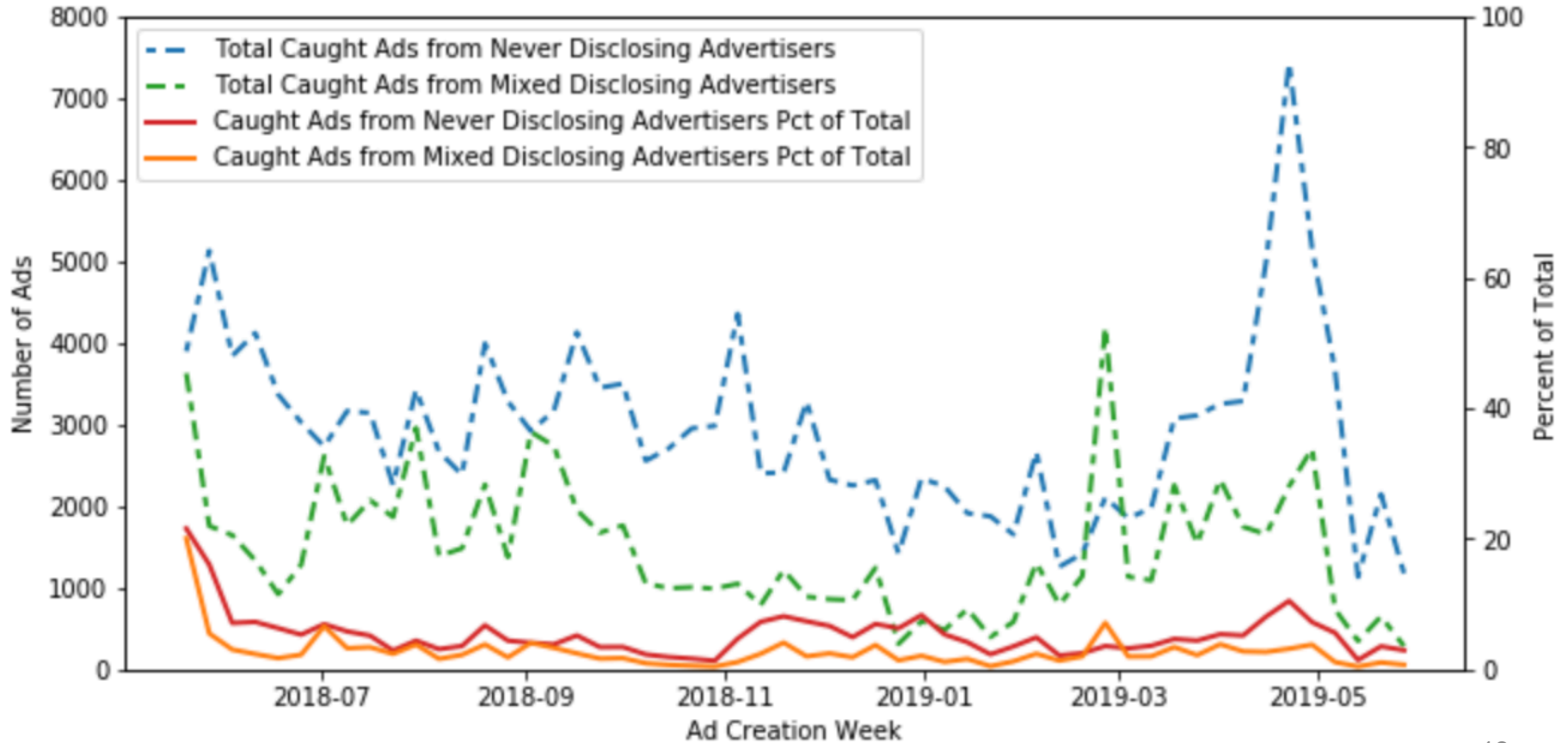
Question 1)

How good is Facebook at enforcing their disclosure policy?



Question 1)

How good are advertisers at voluntarily disclosing ads that meet the criteria for inclusion in the Ad Library?



Question 1)

How good are advertisers at voluntarily disclosing ads that meet the criteria for inclusion in the Ad Library?

Answer:

They've gotten a bit better, but there is a problem with persistent non-disclosure

Question 2)

How useful are disclosure strings for understanding which entities are spending money on political advertising?

	Pages (Pct)	Ads (Pct)	Spend (Pct)
Never attributed	69,072 (54.6%)	200,751 (3.2%)	\$15,266,952 (2.4%)
Misattributed Undisclosed	17,297 (13.7%)	156,348 (4.2%)	\$21,996,150 (3.5%)
Misattributed Typo'd	1,776 (1.4%)	299,807 (8.1%)	\$61,019,010 (9.8%)
Total Misattributed	87,926 (69.6%)	655,619 (17.7%)	\$98,153,857 (15.8%)

TABLE VI: Corrected Aggregated Advertiser statistics

Question 2)

How useful are disclosure strings for understanding which entities are spending money on political advertising?

Answer:

They... aren't.

Question 3)

Can we use the information that has been made transparent to find violations of Facebook's policies?

Undisclosed Coordinated Activity

What is Undisclosed Coordinated Activity?

Advertisers are required to truthfully disclose who pays for ads that meet the criteria for inclusion in the Ad Library. Facebook has periodically banned advertisers who engage in “Coordinated Inauthentic Behavior”¹

¹ <https://about.fb.com/news/2018/12/inside-feed-coordinated-inauthentic-behavior/>

Example of disclosed coordinated activity:

● Inactive
Aug 10, 2018 - Aug 14, 2018

Paid for by **New American Media Group LLC**

 **Left Out Loud**
Sponsored • Paid for by New American Media Group LLC



YOUR TAXES WERE SPENT ON:


1. Ben Carson: \$25k on custom dining set for his office
2. Tom Price: over \$1 million on at least 28 chartered and military flights
3. Steven Mnuchin: over \$1 million to use military planes rather than public airlines
4. Scott Pruitt: \$2.8 million on security, \$929 on first class travel, \$426 on phone booth
5. Ryan Zinke: \$158k on new office doors, \$12,375 on a chartered flight home from Vegas, \$14k on helicopter flights for things like horseback riding with Mike Pence
6. David Shulkin: \$118k on European travel with his wife


**Reassigned from Swamy*

[See Ad Performance](#)

● Inactive
Aug 10, 2018 - Aug 14, 2018

Paid for by **New American Media Group LLC**

 **Melanin**
Sponsored • Paid for by New American Media Group LLC



YOUR TAXES WERE SPENT ON:


1. Ben Carson: \$25k on custom dining set for his office
2. Tom Price: over \$1 million on at least 28 chartered and military flights
3. Steven Mnuchin: over \$1 million to use military planes rather than public airlines
4. Scott Pruitt: \$2.8 million on security, \$929 on first class travel, \$426 on phone booth
5. Ryan Zinke: \$158k on new office doors, \$12,375 on a chartered flight home from Vegas, \$14k on helicopter flights for things like horseback riding with Mike Pence
6. David Shulkin: \$118k on European travel with his wife


**Reassigned from Swamy*

[See Ad Performance](#)

● Inactive
Aug 10, 2018 - Aug 14, 2018

Paid for by **New American Media Group LLC**

 **Raising Tomorrow**
Sponsored • Paid for by New American Media Group LLC



YOUR TAXES WERE SPENT ON:


1. Ben Carson: \$25k on custom dining set for his office
2. Tom Price: over \$1 million on at least 28 chartered and military flights
3. Steven Mnuchin: over \$1 million to use military planes rather than public airlines
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**Reassigned from Swamy*

[See Ad Performance](#)

● Inactive
Aug 10, 2018 - Aug 14, 2018

Published by **New American Media Group LLC**

 **The Soldier Network**
Sponsored • Published by New American Media Group LLC



YOUR TAXES WERE SPENT ON:

1. Ben Carson: \$25k on custom dining set for his office
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**Reassigned from Swamy*

[See Ad Performance](#)

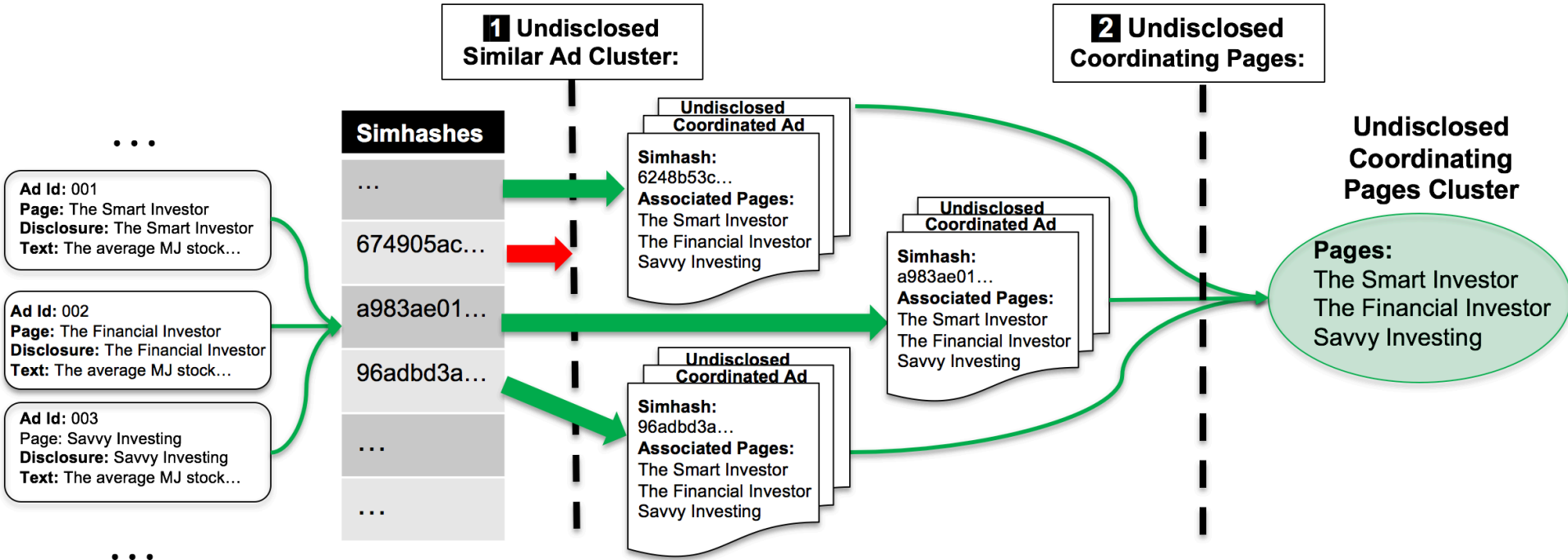
Target:

Undisclosed Coordinated Activity

Tool:

Simhashing: A locality sensitive hashing technique that creates hash values such that the difference between two hashes is equivalent to the Hamming distance of the two texts the hashes were created from

Target: Undisclosed Coordinated Behavior



Step 1:

Cluster near-identical ads using Simhashing. Determine mean number of disclosure strings per ad cluster. Establish cutoff for outlier clusters of z-score=2 or more.

Step 2:

For ad clusters associated with more than one page, what is mean number of times 2 pages are associated with each other? Establish cutoff for page clusters of z-score=2 or more

Step 3: Identify pages that ran ads in outlier ad clusters. Group those pages together if they also meet the cutoff for page clusters

Corporate Astroturfing

● Inactive
Apr 12, 2019 - Apr 30, 2019

 Related to politics or issues of importance

 **West Virginia Citizens Against Lawsuit Abuse**
Sponsored • Paid for by Citizens Against Lawsuit Abuse

Stop ridiculous lawsuits and stand with Citizens Against Lawsuit Abuse today.



West Virginia Citizens Against Lawsuit Abuse
Non Profit
4,157 people like this 

[See Ad Details](#)

● Inactive
Apr 12, 2019 - Apr 30, 2019

 Related to politics or issues of importance

 **Citizens Against Lawsuit Abuse - California**
Sponsored • Paid for by Californians Against Lawsuit Abuse

Stop ridiculous lawsuits and stand with Citizens Against Lawsuit Abuse today.



Citizens Against Lawsuit Abuse - California
Non Profit
9,641 people like this 

[See Ad Details](#)

● Inactive
Apr 12, 2019 - Apr 30, 2019

 Related to politics or issues of importance

 **Illinois Lawsuit Abuse Watch**
Sponsored • Paid for by Illinois Lawsuit Abuse Watch

Stop ridiculous lawsuits and stand with Citizens Against Lawsuit Abuse today.



Illinois Lawsuit Abuse Watch
Public Services Government
2,525 people like this 

[See Ad Details](#)

Dubious Commercial Activity

● Inactive
Started running on Jan 25, 2019

 Related to politics or issues of importance

 **California Loan Programs**
Sponsored • Paid for by California Loan Program

Attention California Veterans, Active Duty and Their Families

The NEW 2019 VA Heroes Home Buyers Program makes it easier for you to become a homeowner (with as little as \$900 in the bank)

Click below to get started:



NEW 2019 California Veteran Home Buyers Program
Pollie Barnes - VA.
SURVEYGIZMO.COM

[See Ad Details](#)

● Inactive
Started running on Jan 14, 2019

 This ad ran without a disclaimer. ⓘ

 **National Veteran Loans**
Sponsored

Attention Florida Veterans, Active Duty and Their Families

The NEW State Approved Heroes Home Buyers Program makes it easier for you to become a homeowner (with as little as \$900 in the bank)

Click below to get started:



NEW 2019 Homes 4 Veteran Heroes Program
Adam - VA.
SURVEYGIZMO.COM

[Learn More](#)

[See Ad Details](#)

● Inactive
Started running on Jan 12, 2019

 Related to politics or issues of importance

 **National Veteran Loan Programs**
Sponsored • Paid for by National Veteran Programs

Attention Nebraska Veterans, Active Duty and Their Families

The NEW 2019 Heroes Home Buyers Program makes it easier for you to become a homeowner (with as little as \$900 in the bank)

Click below to get started:



NEW 2019 Nebraska Homes 4 Veteran Heroes Programs
Eagle Mortgage - VA.
SURVEYGIZMO.COM

[Learn More](#)

[See Ad Details](#)

Clickbait

● Inactive
 Started running on May 22, 2018

 This ad ran without a disclaimer. ⓘ

 **Housekeeping 101**
 Sponsored

Internet destroys white woman who called the cops on black folks having a BBQ with 10+ brutal memes:



Internet Destroys White Woman Who Called The Cops On Black Folks Having A BBQ With 10+ Brutal Memes
 Merritt Lake in Oakland, California, has seen some crazy stuff. According to locals, creepy men are jogging there in Speedos...
BOREDPANDA.COM

[See Ad Details](#)

● Inactive
 Started running on May 22, 2018

 This ad ran without a disclaimer. ⓘ

 **Rick Lax**
 Sponsored

Internet destroys white woman who called the cops on black folks having a BBQ with 10+ brutal memes:



Internet Destroys White Woman Who Called The Cops On Black Folks Having A BBQ With 10+ Brutal Memes
 Merritt Lake in Oakland, California, has seen some crazy stuff. According to locals, creepy men are jogging there in Speedos...
BOREDPANDA.COM

[See Ad Details](#)

● Inactive
 Started running on May 22, 2018

 This ad ran without a disclaimer. ⓘ

 **Alonzo Lerone**
 Sponsored

Internet destroys white woman who called the cops on black folks having a BBQ with 10+ brutal memes:




Internet Destroys White Woman Who Called The Cops On Black Folks Having A BBQ With 10+ Brutal Memes
 Merritt Lake in Oakland, California, has seen some crazy stuff. According to locals, creepy men are jogging there in Speedos...
BOREDPANDA.COM

[See Ad Details](#)

Inauthentic Communities


The Eric M
Sponsored

#ad Nancy Pelosi Democrats win c happen! Click be Congress, and te <http://taxcutswor>



Angry Buckeyes
Sponsored • Paid for by Angry Buckeyes

"According to a report from the conservative-leaning Tax Foundation, current tariffs will cause a squeeze for middle-class Americans — and lead to fewer jobs in the US. The think tank also estimated that the economic pain of the tariffs would get much worse in the event Trump follows through on all tariffs he has threatened."




Trump's trade war could cost every middle-class American family \$453 and could eliminate 292,000 US jobs. President Donald Trump's tariffs will produce a drag on the economy, a loss of American jobs, and lower household... BUSINESSINSIDER.COM

[See Ad Details](#)

Union Patriots
Sponsored • Paid for by Union Patriots

"According to a report from the conservative-leaning Tax Foundation, current tariffs will cause a squeeze for middle-class Americans — and lead to fewer jobs in the US. The think tank also estimated that the economic pain of the tariffs would get much worse in the event Trump follows through on all tariffs he has threatened."




Trump's trade war could cost every middle-class American family \$453 and could eliminate 292,000 US jobs. President Donald Trump's tariffs will produce a drag on the economy, a loss of American jobs, and lower household... BUSINESSINSIDER.COM

[See Ad Details](#)

Middle Class Voices of Pennsylvania
Sponsored • Paid for by Middle Class Voices

"According to a report from the conservative-leaning Tax Foundation, current tariffs will cause a squeeze for middle-class Americans — and lead to fewer jobs in the US. The think tank also estimated that the economic pain of the tariffs would get much worse in the event Trump follows through on all tariffs he has threatened."



Trump's trade war could cost every middle-class American family \$453 and could eliminate 292,000 US jobs. President Donald Trump's tariffs will produce a drag on the economy, a loss of American jobs, and lower household... BUSINESSINSIDER.COM

[See Ad Details](#)

[See Ad Details](#)

[See Ad Details](#)

[See Ad Details](#)

Future Work

- **Cluster Ads by campaign/central idea**
- **Extract more metadata**
 - Named Entity Extraction
 - Sentiment scoring
 - Topic Modeling
- **Use clustering and feature extraction to build a screening system for disinformative content**

Conclusions

- **Transparency can work!**
- **Tactics to spread disinformation are still evolving and we are very early in the lifecycle of this behavior**
- **All parties need to invest more time and money in solving this problem: Uses, Platforms, and Researchers**