

Filipe N. Ribeiro, Koustuv Saha, Mahmoudreza Babaei, Lucas Henrique, Johnnatan Messias, Fabricio Benevenuto, Oana Goga, Krishna P. Gummadi, and Elissa M. Redmiles. 2019. On Microtargeting Socially Divisive Ads: A Case Study of Russia-Linked Ad Campaigns on Facebook. In Proceedings of the Conference on Fairness, Accountability, and Transparency (FAT\* '19). ACM, New York, NY, USA, 140-149. DOI: <https://doi.org/10.1145/3287560.3287580>

# On Microtargeting Socially Divisive Ads: A Case Study of Russia-Linked Ad Campaigns on Facebook

Filipe N. Ribeiro\*

**Koustuv Saha\***

Mahmoudreza Babaei

Lucas Henrique

Johnnatan Messias

Fabricio Benevenuto

Oana Goga

Krishna P. Gummadi

Elissa M. Redmiles



MAX PLANCK INSTITUTE  
FOR SOFTWARE SYSTEMS





## *2016 U.S. Presidential Elections*





# Social Media "Targeted" Advertising

# HOUSE DEMOCRATS RELEASE 3,500 RUSSIA-LINKED FACEBOOK ADS

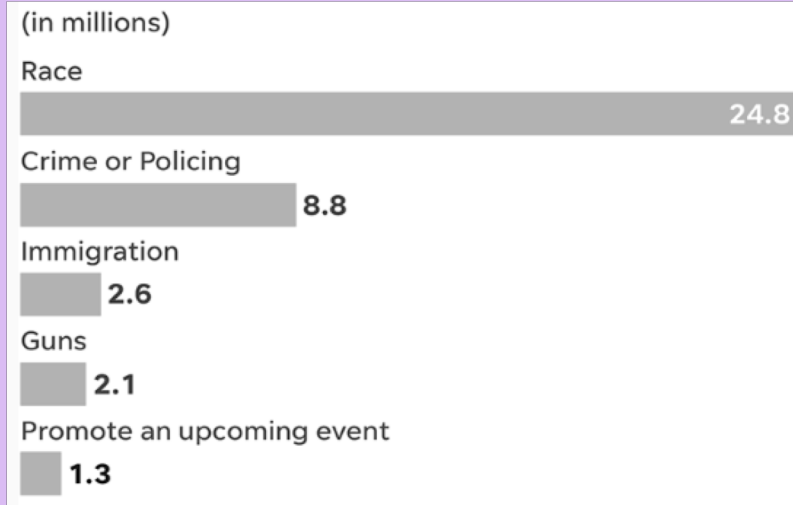


WIN MCNAMEE/GETTY IMAGES

ON THURSDAY, DEMOCRATS on the House Intelligence Committee published more than 3,500 Facebook and

These ads...

- exploited Facebook's targeted advertising platform
- mostly contained divisive or polarizing content



# Views by topic (Source: USA Today)



# Targeted Advertising

- Facilitates selecting ad audience
- These websites gather detailed **demographic, behavioral, location**, and **interest** profiles of their users
- Enables “microtargeting”: choose small number of users with very specific attributes

## Demographics

Find people based on traits like age, gender, relationship status, education, workplace, job titles and more.

## Location

Reach people in areas where you want to do business. You can even create a radius around a store to help create more walk-ins.

## Interests

Find people based on what they're into, like hobbies, favorite entertainment and more.

## Behaviors

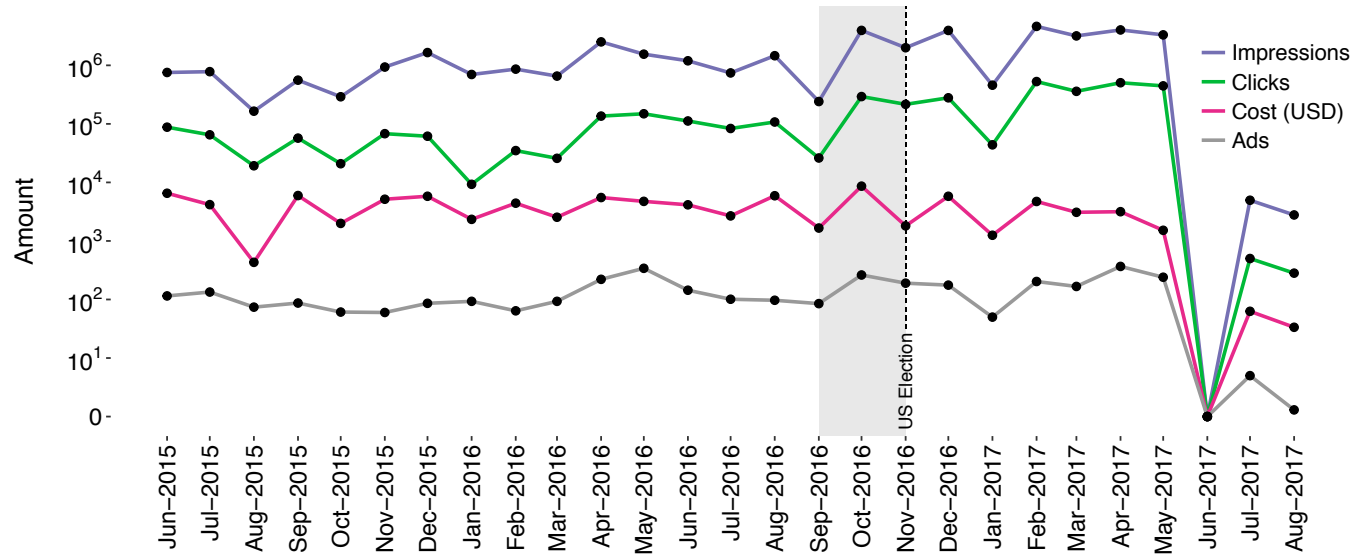
Reach people based on their purchase behaviors, device usage and other activities.

# Research Objectives

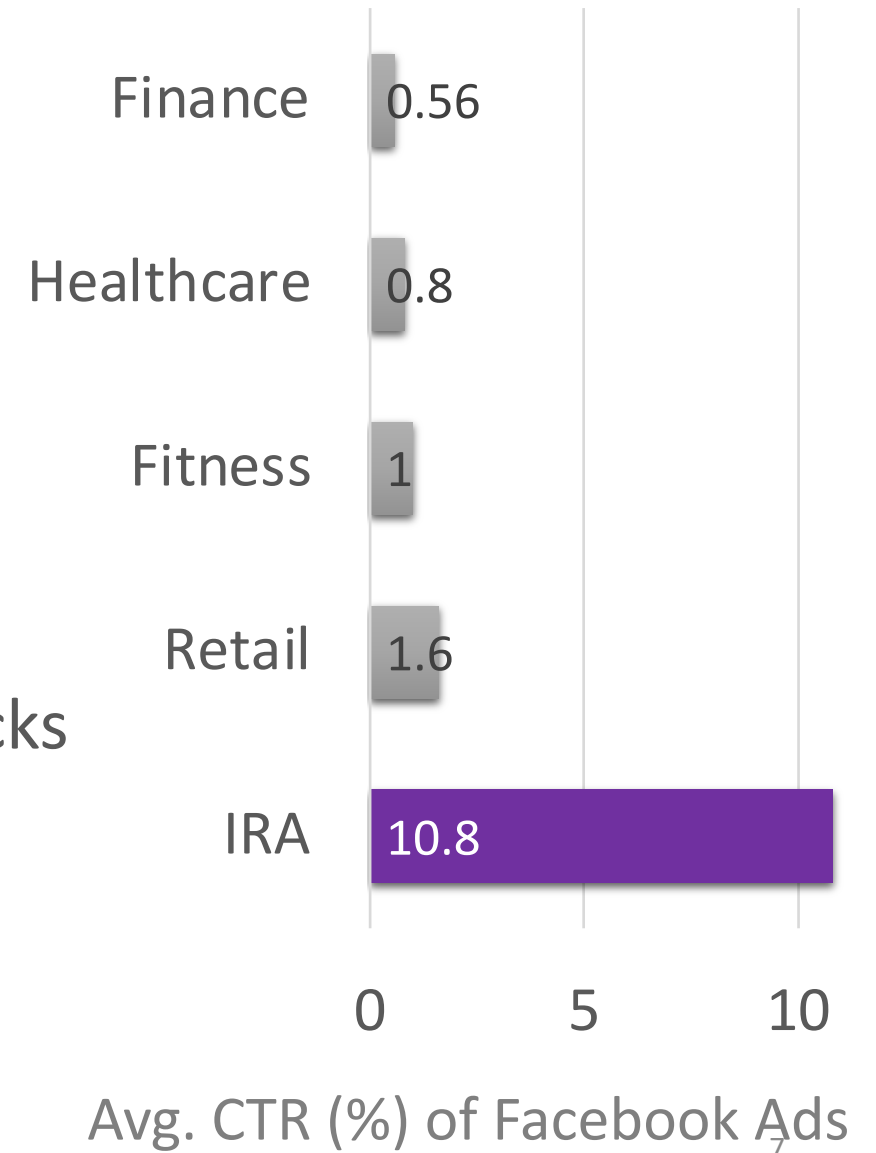
- How divisive is the content of the IRA ads?
- Were the targeting of the ads effectively done?
- What features of the Facebook Ads platform were leveraged in targeting the audience of the ads?



# DATA



- 3,517 Ads
- Each with corresponding cost, impressions, clicks
- Avg.
  - Cost per Ad: 34.5 USD,
  - Impressions: 11,536,
  - Clicks: 1,062



# High Impact Ads

- Union of top 10% ads in each of cost, clicks, impressions, and CTR
- Run prior to the 2016 U.S. Elections
- >80% of cost, clicks, impressions
- **485** such ads





# RQ1: Divisiveness of the IRA Ads

- U.S census-representative surveys (40% liberals, 40% conservatives, 20% moderate or neutral)
- 15-30 responses per ad
- Total 2,886 unique respondents

If they would report  
the ad shown

Reporting

Reaction: Approval /  
Disapproval

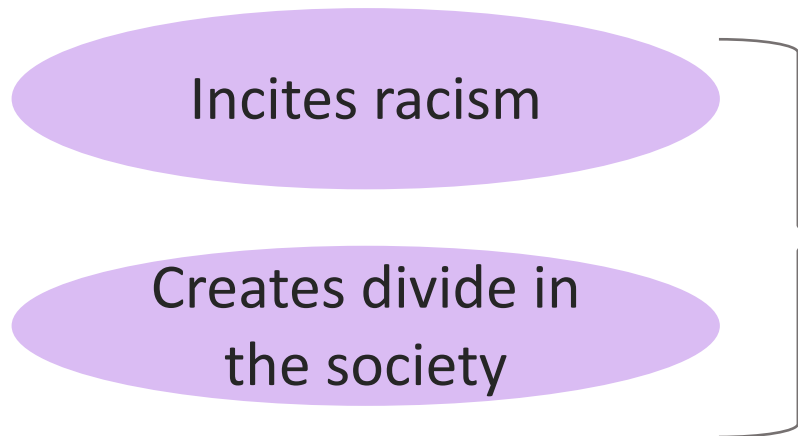
Approval

If they could  
identify false claims

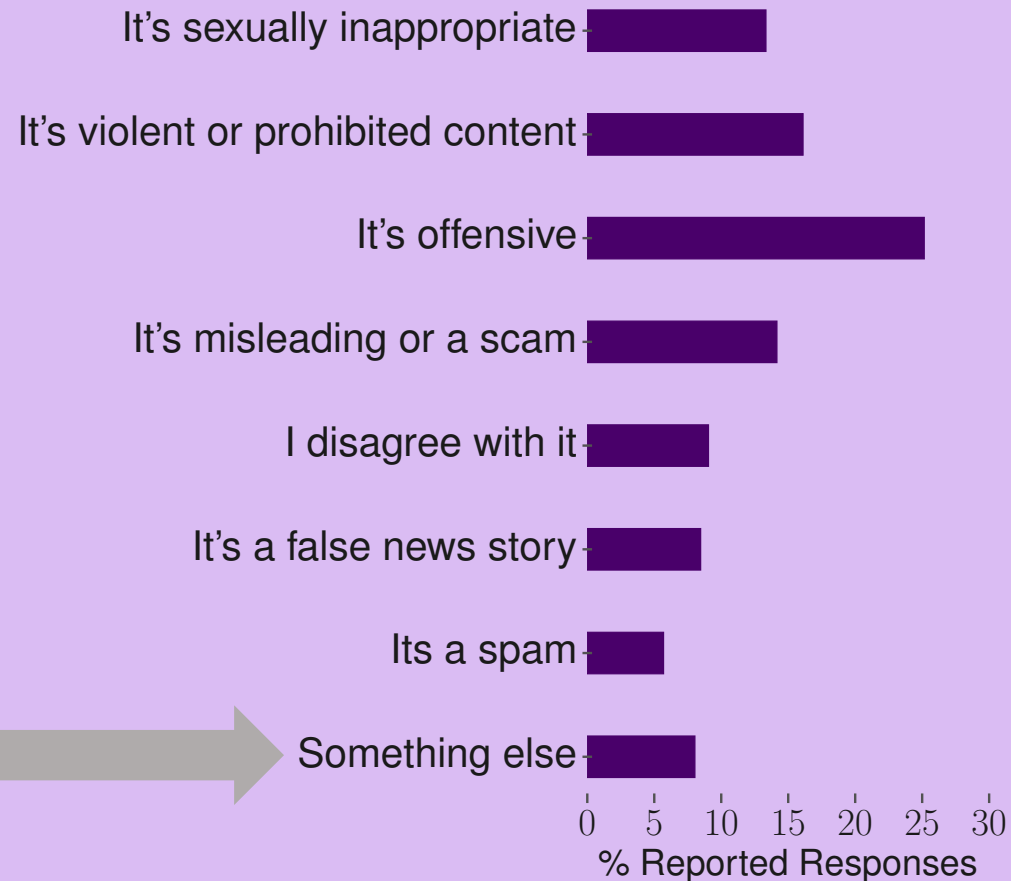
False Claims

# Reporting

- Whether they would “report / flag the content” of the ad shown.
- If they would, why do they find the ad inappropriate



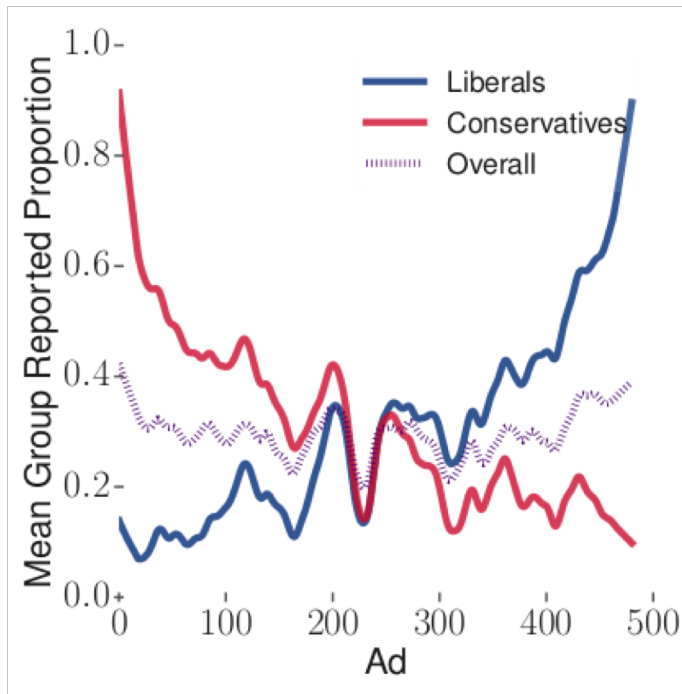
For over 73% of the ads, at least 20% respondents reported the ad.



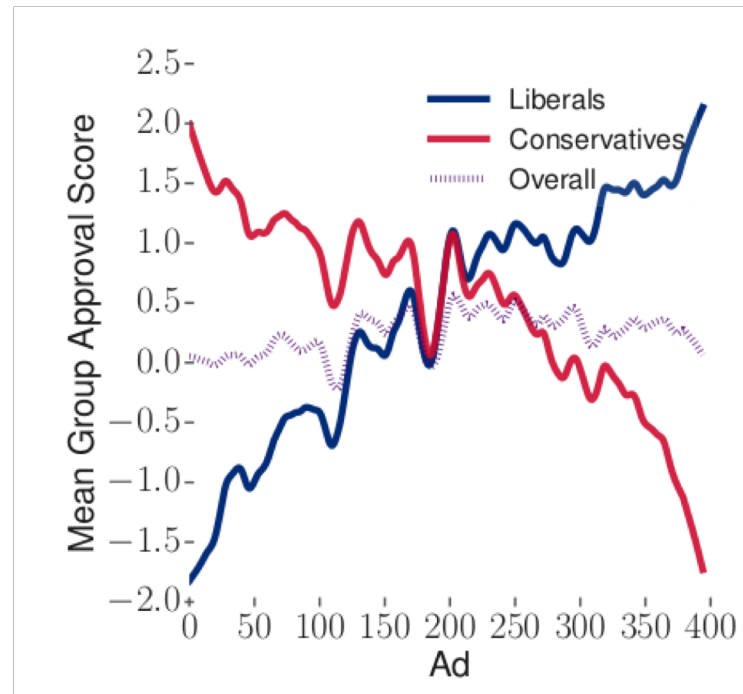


# RQ1: Divisiveness of the IRA Ads

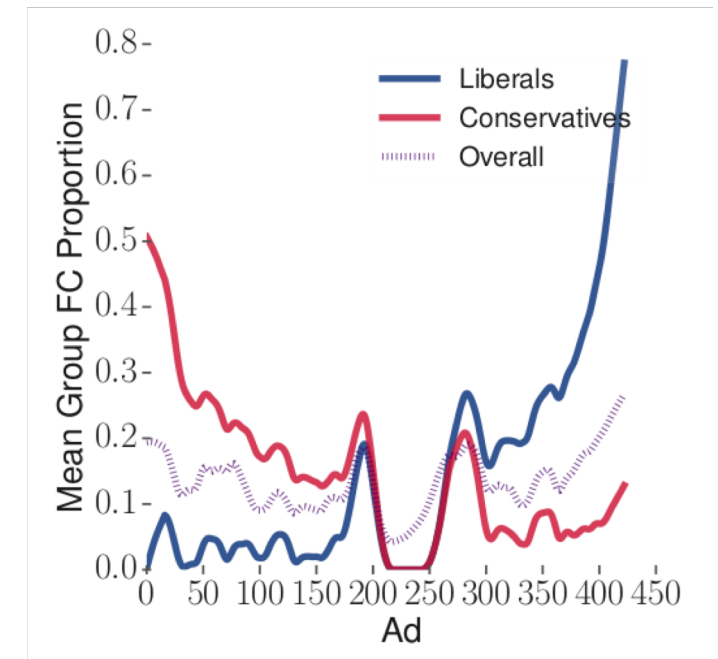
## Ideological divisiveness



Reporting



Approval



False Claims

Parasite is an organism that lives in or on another organism and benefits by deriving nutrients at the host's expense.

About 20 million parasites live in the United States illegally. They exploit Americans and give nothing in return. Isn't it time to get rid of parasites that are destroying our country?



Reported by the Liberals  
Not Reported by the Conservatives

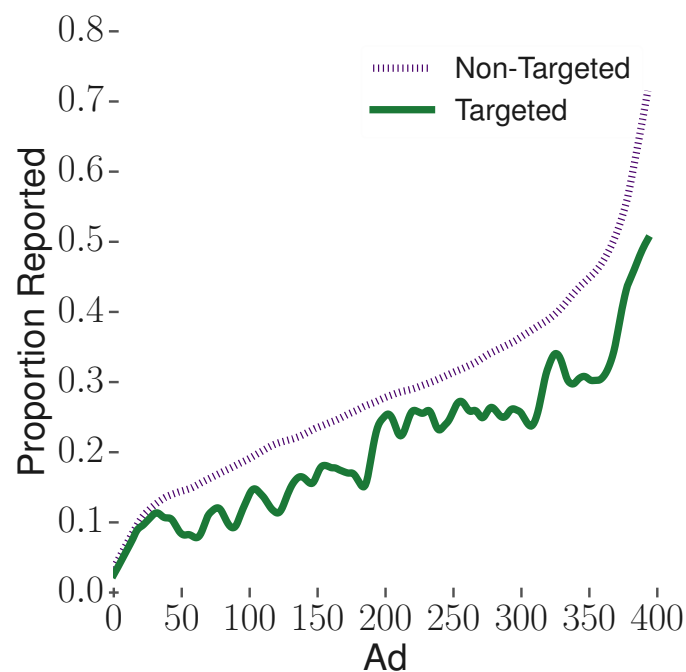
We Muslims of the United States are subject to Islamophobia from the media where regularly



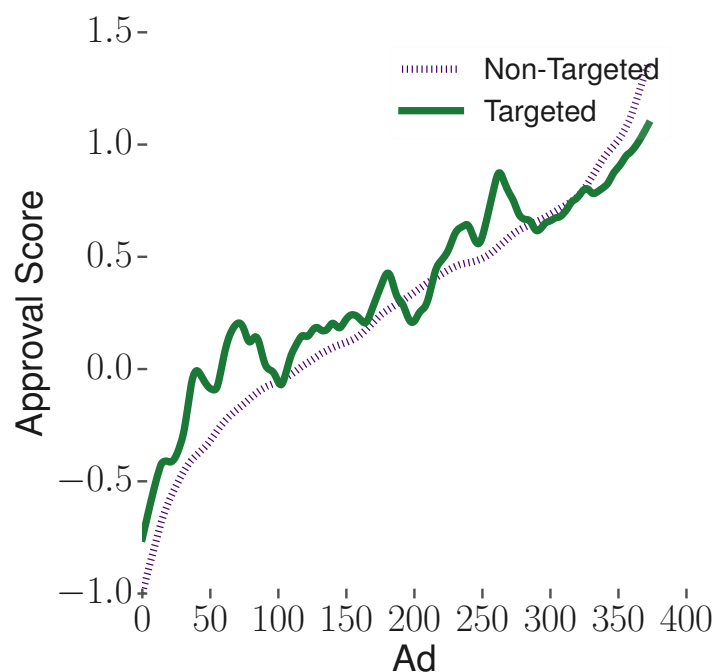
Reported by the Conservatives  
Not Reported by the Liberals



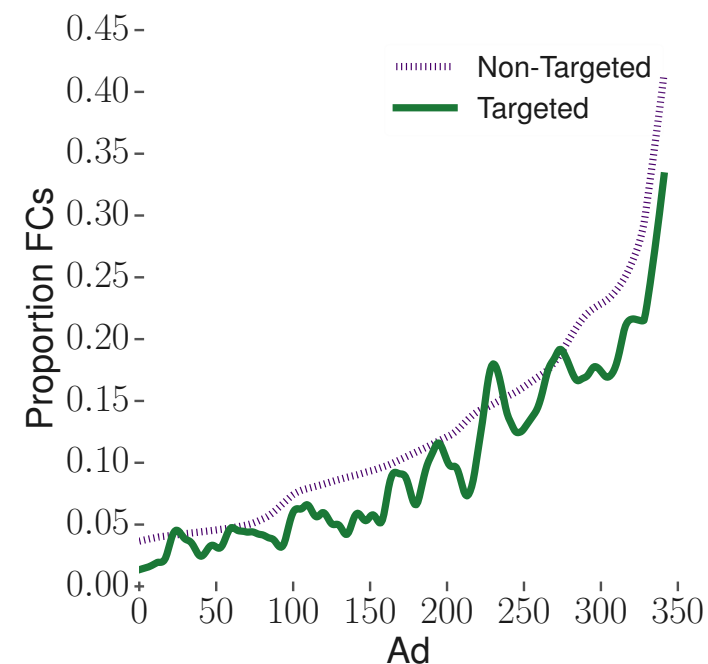
# RQ2: How well was the targeting done?



Reporting



Approval



False Claims

# RQ3: How the Facebook Ads Platform helped?

## Attribute-based targeting

- Demographics (gender, age, location, language)
- Interests (eg. interested in African-American civil rights movement)
- Behaviors (eg. Individuals with ethnic affinity: African-American)

Facebook attribute suggestion. (eg. similar pages with demographic skewness): 64% of the ads used this feature

# Implications

- Characterized the Russia-linked ad campaign on Facebook
- These ads were ideologically divisive
- Ten times more effective than a typical Facebook ad
- Biased especially in race and political leaning
- Ads targeted the users who are less likely to identify the inappropriateness
- Facebook Ads platform can likely be abused to create social discord



Filipe N. Ribeiro, Koustuv Saha, Mahmoudreza Babaei, Lucas Henrique, Johnnatan Messias, Fabricio Benevenuto, Oana Goga, Krishna P. Gummadi, and Elissa M. Redmiles. 2019. On Microtargeting Socially Divisive Ads: A Case Study of Russia-Linked Ad Campaigns on Facebook. In Proceedings of the Conference on Fairness, Accountability, and Transparency (FAT\* '19). ACM, New York, NY, USA, 140-149. DOI: <https://doi.org/10.1145/3287560.3287580>

*<http://www.socially-divisive-ads.dcc.ufmg.br/>*



UFOP  
Universidade Federal  
de Ouro Preto

U F *m* G



MAX PLANCK INSTITUTE  
FOR SOFTWARE SYSTEMS



Thank You  
[koustuv.saha@gatech.edu](mailto:koustuv.saha@gatech.edu) | [koustuv.com](http://koustuv.com)