



# Detecting the Fake News at Its Source, Media Literacy, and Regulatory Compliance

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Nanyang Technological University, Singapore

October 30, 2019

Thursday 11 April 2019 by Chris Ballard

## TV fans delighted as Brexit renewed for another season



Bozhidar Bozhanov and 358K others like this.

Fans of Britain's long-running comedy-drama Brexit are today overjoyed after learning that another season of the popular show has been commissioned.

Just when it looked like the UK's telly addicts would need to find another boxset to binge it has been announced that Brexit – possibly the greatest farce since *Fawlty Towers* and a fantasy to rival *Game of Thrones* – will roll on for at least one more season.



Brexit aficionado Simon Williams had been bracing himself for the show's emotional finale.

"I'm so happy!" he said. "There's still so much potential with these characters, so many more votes they could have on Theresa May's deal."

**Monday, December 12, 2016**

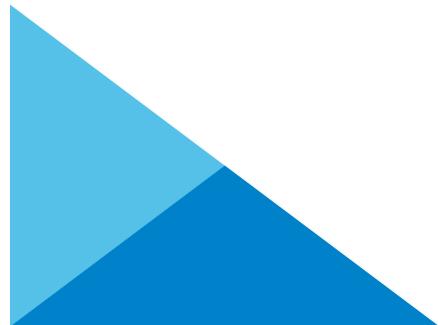
## **WAR ON CHRISTMAS: OBAMA ORDERS BAN ON CHRISTMAS CARDS TO MILITARY**

The image is a composite of two photographs. On the left, a female news anchor with blonde hair, wearing a dark sleeveless top, is speaking on a television news set. On the right, a photograph of a newspaper front page from 'DAILY EXPRESS' is shown. The headline on the paper reads 'CHRISTMAS IS BANNED: IT OFFENDS MUSLIMS'. Below the headline, there is a sub-headline 'OBAMA ORDERS BAN ON ALL CHRISTMAS CARDS TO OVERSEAS SERVICEMEN' and a smaller text 'PENTAGON TO CENSOR ALL OUTGOING MAIL THAT APPEARS TO BE CHRISTMAS THEMED'. The background of the entire composite image features a blue and white abstract pattern.

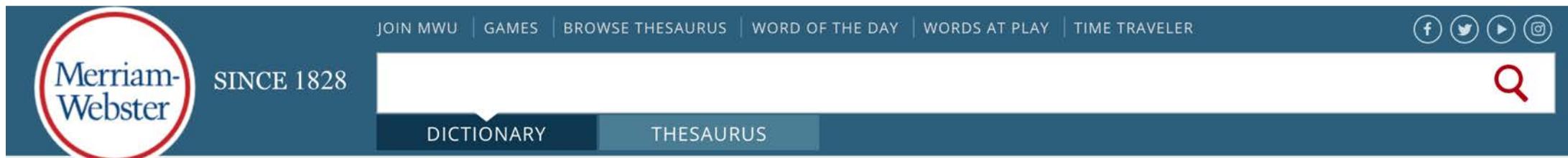
**OBAMA ORDERS BAN ON ALL CHRISTMAS CARDS TO OVERSEAS SERVICEMEN**

**PENTAGON TO CENSOR ALL OUTGOING MAIL THAT APPEARS TO BE CHRISTMAS THEMED**

# What is “Fake News”?



# *Merriam-Webster: Self-Explanatory, No Need to Define*



Words We're Watching

## The Real Story of 'Fake News'

The term seems to have emerged around the end of the 19th century

The reason *fake news* is unlikely to be entered in our dictionary anytime soon is that it is a self-explanatory compound noun — a combination of two distinct words, both well known, which when used in combination yield an easily understood meaning. *Fake news* is, quite simply, *news* ("material reported in a newspaper or news periodical or on a newscast") that is *fake* ("false, counterfeit").

Secretary Brunnell Declares **Fake News** About His People is Being Telegraphed Over the Country.

—*Cincinnati Commercial Tribune* (Cincinnati, OH), 7 Jun. 1890

**Fake News.** The following is handed to us for publication: Sunday's Enterprise says that I and a companion were run over by the Neptune and thrown into the water. As can be proved by more than one, we did not so much as get our feet wet, nor were we helped into the Neptune. Clarence Collins.

—*The Kearney Daily Hub* (Kearney, NE), 7 Jul. 1890

The public taste is not really vitiated and it does not in its desire for 'news' absolutely crave for distortions of facts and enlargements of incidents; and it certainly has no genuine appetite for '**fake news**' and 'special fiend' decoctions such as were served up by a local syndicate a year or two ago.

—*The Buffalo Commercial* (Buffalo, NY), 2 May 1891



WHAT GIVES?

## Fake News Is An Oxymoron

Written By **Chitra Subramaniam** | Mumbai | Published: November 18, 2018 22:59 IST



Ever since the fountainhead of fake news moved into the White House two years ago, the news space for lesser mortals including media houses has taken a serious beating.

8

<https://www.republicworld.com/opinions/what-gives/fake-news-is-an-oxymoron>

# Collins

## Definition of 'fake news'

English: fake news

Example sentences

### fake news in British

noun

false, often sensational, information disseminated under the guise of news reporting



*Collins English Dictionary*. Copyright © HarperCollins Publishers

<https://www.collinsdictionary.com/dictionary/english/fake-news>

## 2017'S WORD OF THE YEAR BY DICTIONARY PUBLISHER COLLINS

NEXTER



- 2016** - BREXIT
- 2015** - BINGE-WATCH
- 2014** - PHOTOBOMB
- 2013** - GEEK

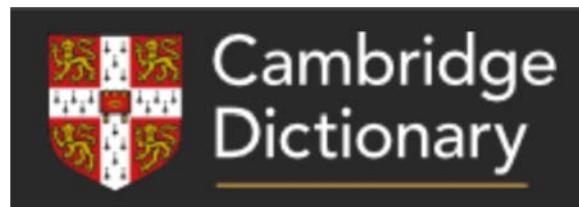


Oxford Dictionaries

# WORD OF THE YEAR

post-truth

2016



Meaning of **fake news** in English



# fake news

noun [ U ] • UK / ,feɪk 'nju:z/ US / ,feɪk 'nu:z/

**false stories that appear to be news, spread on the internet or using other media, usually created to influence political views or as a joke:**

*There is concern about the power of fake news to affect election results.*

— Thesaurus: synonyms and related words

True, real, false, and unreal

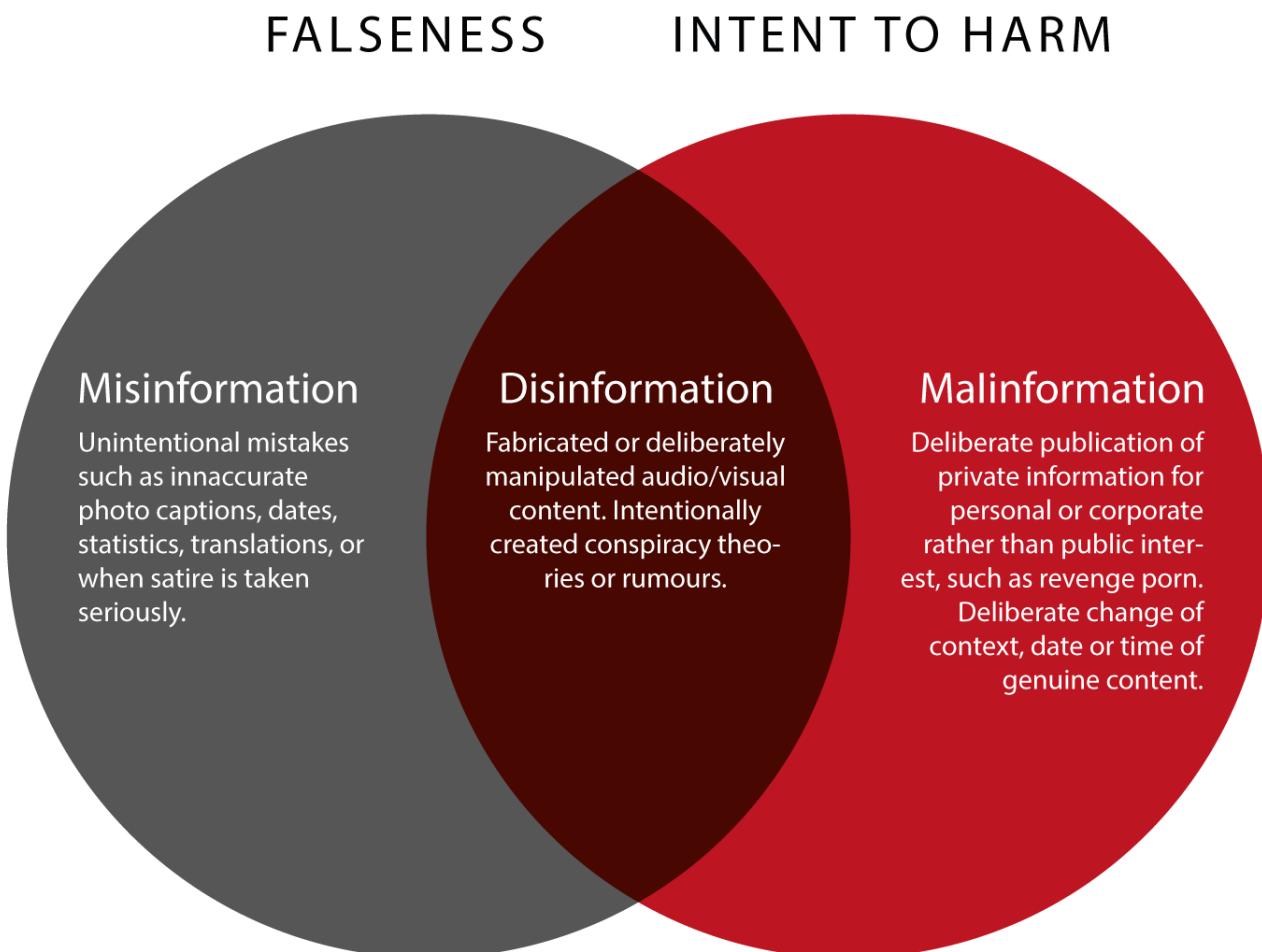
<https://dictionary.cambridge.org/dictionary/english/fake-news>



- Fake news is a neologism often used to refer to fabricated news. This type of news, found in traditional news, **social media or fake news websites**, has no basis in fact, but is presented as being factually accurate.
- Fake news is a type of yellow journalism or propaganda that consists of deliberate disinformation or hoaxes spread via traditional news media (print and broadcast) or **online social media**
- Fake news is written and published usually with the intent to mislead in order to damage an agency, entity, or person, and/or gain financially or politically, often using sensationalist, dishonest, or outright fabricated headlines to increase readership. Similarly, **clickbait** stories and headlines earn advertising revenue from this activity.

[https://en.wikipedia.org/wiki/Fake\\_news](https://en.wikipedia.org/wiki/Fake_news)

# TYPES OF INFORMATION DISORDER



# 7 COMMON FORMS OF INFORMATION DISORDER



## SATIRE OR PARODY

No intention to cause harm but has potential to fool



## MISLEADING CONTENT

Misleading use of information to frame an issue or individual



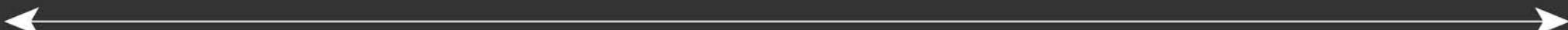
## IMPOSTER CONTENT

When genuine sources are impersonated



## FABRICATED CONTENT

New content is 100% false, designed to deceive and do harm



## FALSE CONNECTION

When headlines, visuals or captions don't support the content



## FALSE CONTEXT

When genuine content is shared with false contextual information



## MANIPULATED CONTENT

When genuine information or imagery is manipulated to deceive

# Maybe it Cannot be Formally Defined, but People Recognize It When They See It

A black and white photograph of US Supreme Court Justice Potter Stewart. He is shown from the chest up, wearing a dark suit jacket over a white shirt and a patterned tie. He has a serious expression and is looking slightly to his left. The background is dark and indistinct.

I shall not today attempt further to define the kinds of material but I know it when I see it.

(Potter Stewart)

**izquotes.com**

*I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description ["hard-core pornography"], and perhaps I could never succeed in intelligibly doing so. But I know it when I see it.*

# Truth: Wisdom of the Crowds?



**Elon Musk** @elonmusk

Going to create a site where the public can rate the core truth of any article & track the credibility score over time of each journalist, editor & publication. Thinking of calling it Pravda ...

10:12 PM · May 23, 2018 · [Twitter for iPhone](#)

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**47.9K** Retweets    **239.4K** Likes

# Truth: Wisdom of the Crowds?



4076172

S&DC-S/N	Statement and Designation by Foreign Corporation
<p>To qualify a corporation from another state or country to transact intrastate business in California, fill out this form, and submit for filing along with:</p> <ul style="list-style-type: none"> <li>- A <b>\$100</b> filing fee (for a foreign stock corporation) or <b>\$30</b> filing fee (for a foreign nonprofit corporation), and</li> <li>- A certificate of good standing, issued within the last six (6) months by the agency where the corporation was formed. <b>Note:</b> If the corporation is a nonprofit, the certificate of good standing also must indicate the corporation is a nonprofit or nonstock corporation.</li> <li>- A separate, non-refundable <b>\$15</b> service fee also must be included, if you <b>drop off</b> the completed form.</li> </ul> <p><b>Important!</b> Corporations in California may have to pay a minimum \$800 yearly tax to the California Franchise Tax Board. For more information, go to <a href="https://www.ftb.ca.gov">https://www.ftb.ca.gov</a>.</p>	

**FILED** *mc*  
Secretary of State  
State of California

OCT 19 2017

This Space For Office Use Only

For questions about this form, go to [www.sos.ca.gov/business/be/filing-tips.htm](http://www.sos.ca.gov/business/be/filing-tips.htm).

**Corporate Name** (List the exact name of the corporation, as shown in the certificate of good standing. If the name of the corporation is not available for use in the State of California, the corporation must qualify under an assumed name. E.g., "[list the exact name] which will do business in California as [list the proposed assumed name]. For general corporate name requirements and restrictions in California, go to [www.sos.ca.gov/business/be/name-availability.htm](http://www.sos.ca.gov/business/be/name-availability.htm).)

① PRAVDA CORP.

## **Corporate History**

② State or foreign country where this corporation was formed: **DELAWARE**

**Service of Process** (List a California resident or a California registered corporate agent that agrees to be your agent to accept service of process in case your corporation is sued. You may list any adult who lives in California. You may not list your own corporation as the agent. Do not list an address if the agent is a California registered corporate agent as the address for service of process is already on file.)

### ③ a LAGE ANDERSEN

Agent's Name

b 216 PARK ROAD

BURLINGAME

CA 94010

*Agent's Street Address (if agent is not a corporation) - Do not list a P.O. Box*      *City (no abbreviations)*

**State Zip**

The corporation named in Item 1 above irrevocably consents to service of process directed to it upon the agent designated above, and to service of process on the California Secretary of State if that agent or that agent's successor

# Truth: Wisdom of the Crowds?



**Elon Musk** @elonmusk · May 23, 2018

Replies to [@elonmusk](#)

Create a media credibility rating site (that also flags propaganda botnets)

**Yes, this would be good**

88%

No, media are awesome

12%

681,097 votes · Final results



4.5K



12.7K



38.8K



2 more replies

# Pravda is Elon Musk's worst idea ever

This idea isn't Boring. It's Insane.



Lance Ulanoff [Follow](#)

May 23, 2018 · 4 min read ★

<https://medium.com/@LanceUlanoff/pravda-is-elon-musks-worst-idea-ever-9403bd2476fd>



# Elon Musk doesn't know how journalism works — but thinks he can fix it

The tech leader took to Twitter to slam the media, proposing a new platform where people could rate articles on trustworthiness.

By Li Zhou | li@vox.com | May 24, 2018, 3:30pm EDT

[!\[\]\(230490b09f1763ff4241372da7cf5f63\_img.jpg\) f](#) [!\[\]\(920b6633ca4b8b4bf09090025e3c3d33\_img.jpg\) t](#) [!\[\]\(1689448e6ff8361e14952e74b2f39400\_img.jpg\) SHARE](#)



[https://www.vox.com/2018/5/24/17389388/  
elon-musk-twitter-pravda](https://www.vox.com/2018/5/24/17389388/elon-musk-twitter-pravda)

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# People Do Not Recognize “Fake News” When They See It

The screenshot shows a news article from BNT News dated 08.03.2019. The title is "Mariya Gabriel: 75% of young people do not recognize fake news". The text below the title states: "Europe is taking small steps to fight against fake news, but the road is very long. Mariya Gabriel, European Commissioner for Digital Economy and Digital Society told ...". There are social sharing icons for Twitter, Facebook, and Google+. Below the text is a video frame showing a woman in a pink blazer smiling, identified as Mariya Gabriel. The video frame includes a BNT 1 logo, a weather update for Varna (6°), and a timestamp (8:17).

<https://www.bnt.bg/en/a/mariya-gabriel-75-of-young-people-do-not-recognize-fake-news>

# Most People Believe It, But Is It True?

A black and white photograph showing two astronauts in full space suits working on the exterior of a lunar module. One astronaut is in the foreground, leaning over and working on equipment. Another astronaut is standing behind him, also engaged in work. The background shows the dark void of space with some stars visible.

**SPUTNIK**

**Poll: Over Half of Russians  
Don't Believe America  
Landed on the Moon**

<https://sputniknews.com/science/201807271066736384-russians-polled-on-moon-landings/>

CC0

# Even the Blockchain Can Be Hacked

(and those who produce “Fake News” have deep pockets)

Blockchain Jan 8

**Hackers may have just stolen \$1 million from the Ethereum Classic blockchain in a “51%” attack**



An attack on the Ethereum Classic blockchain may have helped hackers steal around \$1.1 million worth of the currency from other users, according to popular cryptocurrency exchange Coinbase.

<https://www.technologyreview.com/f/612728/hackers-just-stole-1-million-from-the-ethereum-classic-blockchain-in-a-rare-51/>

# Maybe “Fake News” is Just “News I Do Not Like”?



[Donald J. Trump](#)

@realDonaldTrump

Following



The FAKE NEWS media (failing @nytimes, @NBCNews, @ABC, @CBS, @CNN) is not my enemy, it is the enemy of the American People!

RETWEETS

33,167

LIKES

101,171



9:48 PM - 17 Feb 2017



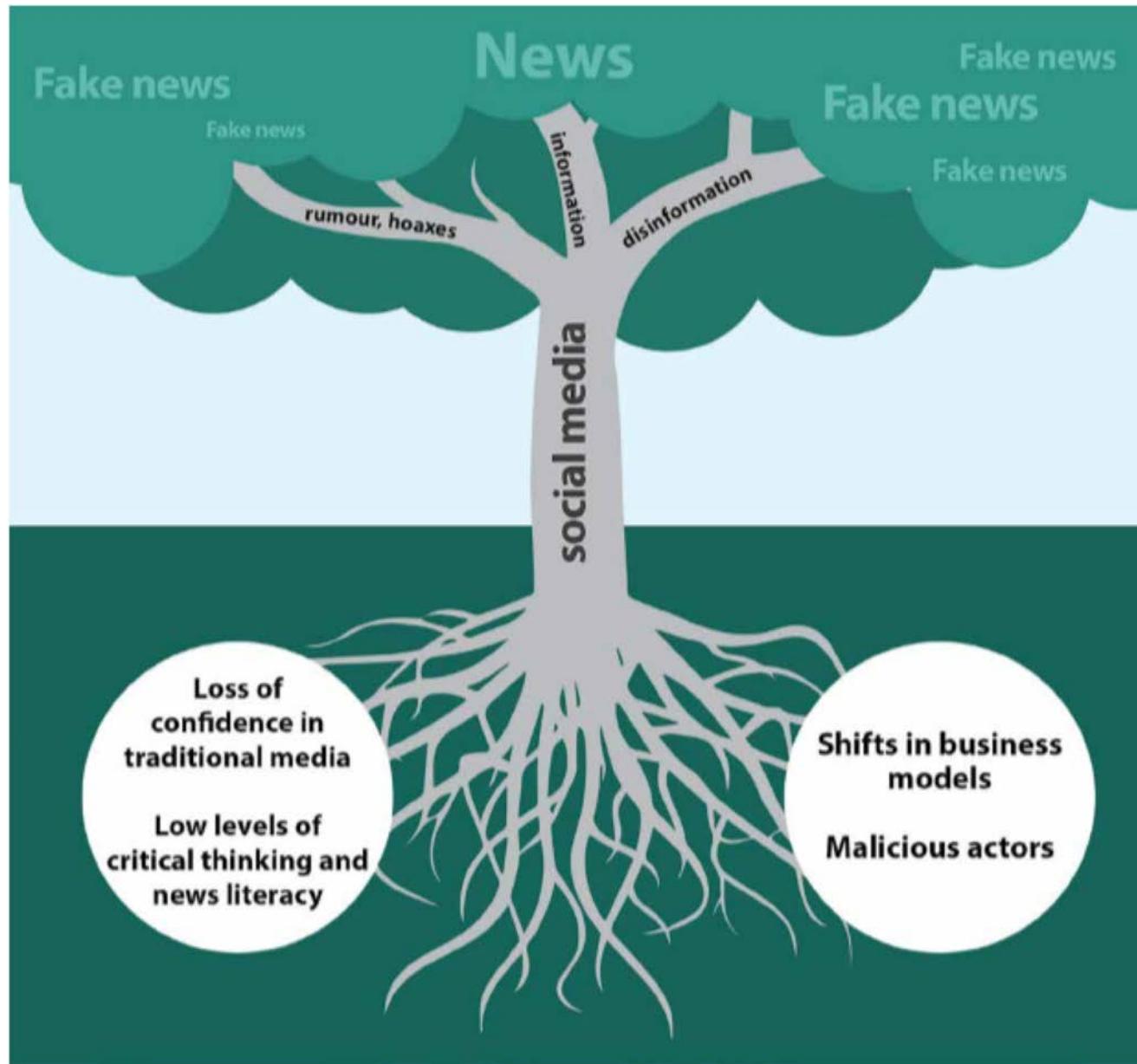
60K



33K



101K



By UNESCO - World Trends  
in Freedom of Expression  
and Media Development  
Global Report 2017/2018,  
CC BY-SA 3.0-igo,  
<https://commons.wikimedia.org/w/index.php?curid=70286494>

## Fake news 2.0: personalized, optimized, and even harder to stop

Artificial intelligence will automate and optimize fake news, warns a technology supplier to US intelligence agencies.

by **Will Knight**

Mar 27, 2018

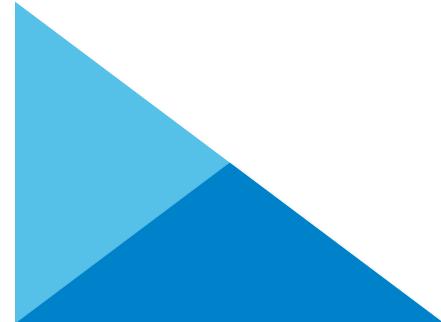
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**Fake news may have already influenced politics in the US, but it's going to get a lot worse, warns an AI consultant to the US government.**

"The automation of the generation of fake news is going to make it very effective," Gourley told the audience at EmTech Digital, organized by *MIT Technology Review*.

<https://www.technologyreview.com/s/610635/fake-news-2-0-personalized-optimized-and-even-harder-to-stop/>

# **“Fake News”: A Weapon of Mass Deception**

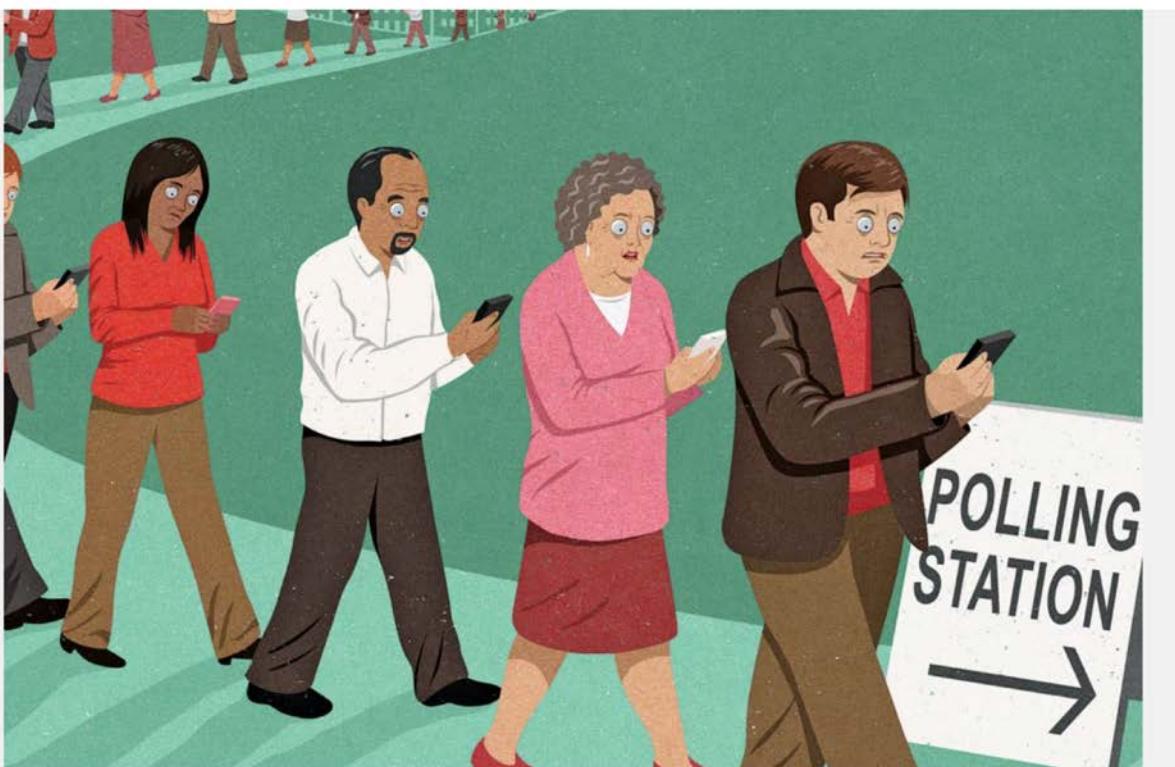




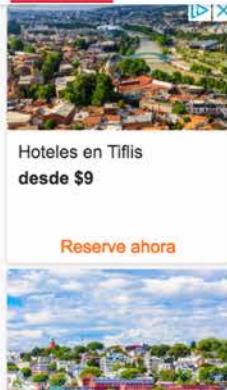
**N** NEWSWEEK MAGAZINE

## How Big Data Mines Personal Info to Craft Fake News and Manipulate Voters

BY NINA BURLEIGH ON 6/8/17 AT 1:01 PM



<https://www.newsweek.com/2017/06/16/big-data-mines-personal-info-manipulate-voters-623131.html>

**KAYAK**

KAYAK: Buscador Hoteles

<https://www.independent.co.uk/voices/michael-gove-boris-johnson-brexit-eurosceptic-press-theresa-may-a7533806.html>

# Fake news handed Brexiteers the referendum – and now they have no idea what they're doing



'Would we have won without immigration? No. Would we have won without...the NHS? All our research and the close result strongly suggests no. Would we have won by spending our time talking about trade and the single market? No way'

**Andrew Grice** | @IndyPolitics

Wednesday 18 January 2017 16:45 | 157 comments

Click to follow  
The Independent Voices

**Facebook Frenzy**

## How the German Right Wing Dominates Social Media

A comprehensive analysis has revealed the degree to which German right-wing populists from the Alternative for Germany (AfD) party are dominating the social media landscape. They might be getting help from abroad.

By *Jörg Diehl* ▾, *Roman Lehberger* ▾, *Ann-Katrin Müller* ▾ and *Philipp Seibt* ▾



Monika Skolimowska/ DPA

<https://www.spiegel.de/international/germany/germany-afd-populists-dominate-on-facebook-a-1264933.html>

# European Elections

Polling from across Europe. Updated daily.



## Half of European voters may have viewed Russian-backed ‘fake news’

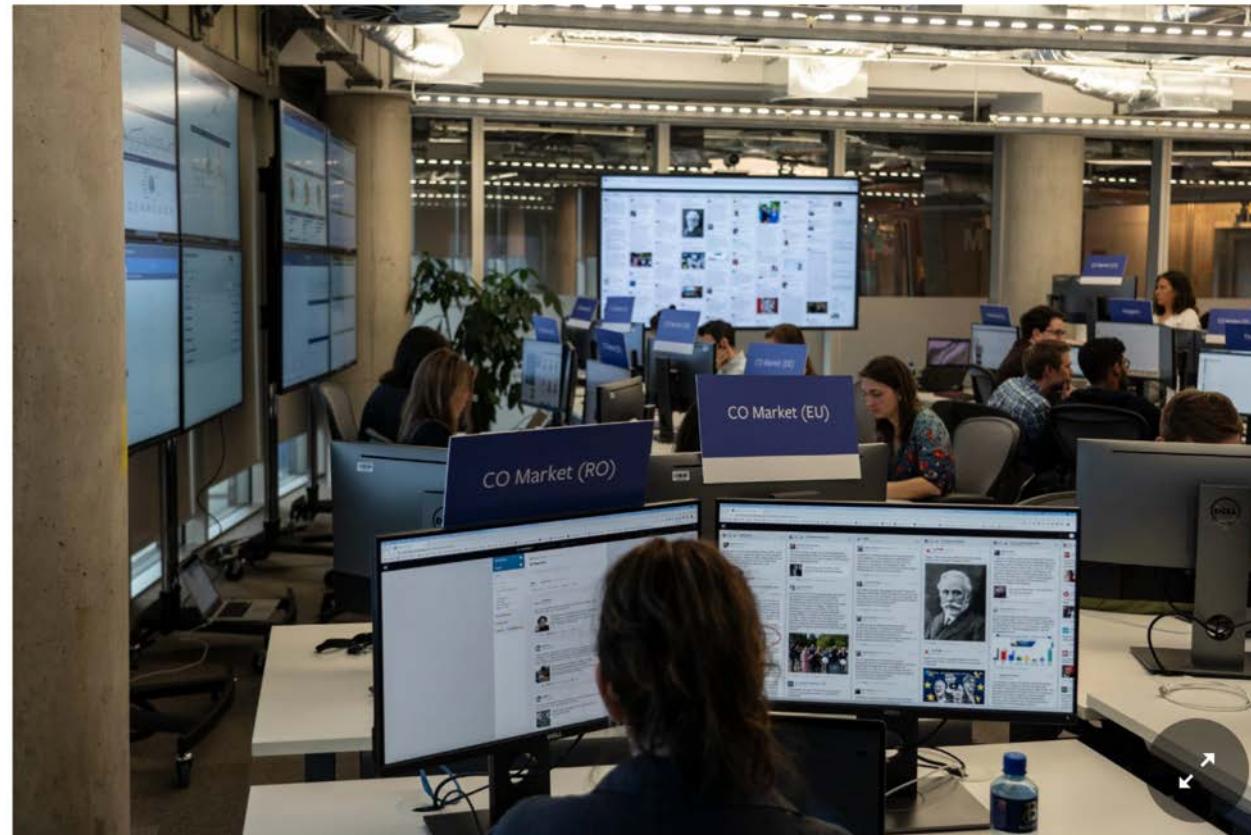
Kremlin-backed campaigns are promoting extremist views and amplifying them to sow discord, says cyber firm.

By MARK SCOTT | 5/7/19, 12:45 PM CET | Updated 5/8/19, 7:00 PM CET

<https://www.politico.eu/article/european-parliament-russia-mcafee-safeguard-cyber/>

The New York Times

## *At Least 70 Countries Have Had Disinformation Campaigns, Study Finds*



<https://www.nytimes.com/2019/09/26/technology/government-disinformation-cyber-troops.html>

# Half of Americans see fake news as bigger threat than terrorism, study finds

Almost 70% of Americans feel fake news has greatly affected their confidence in government institutions, a new study says

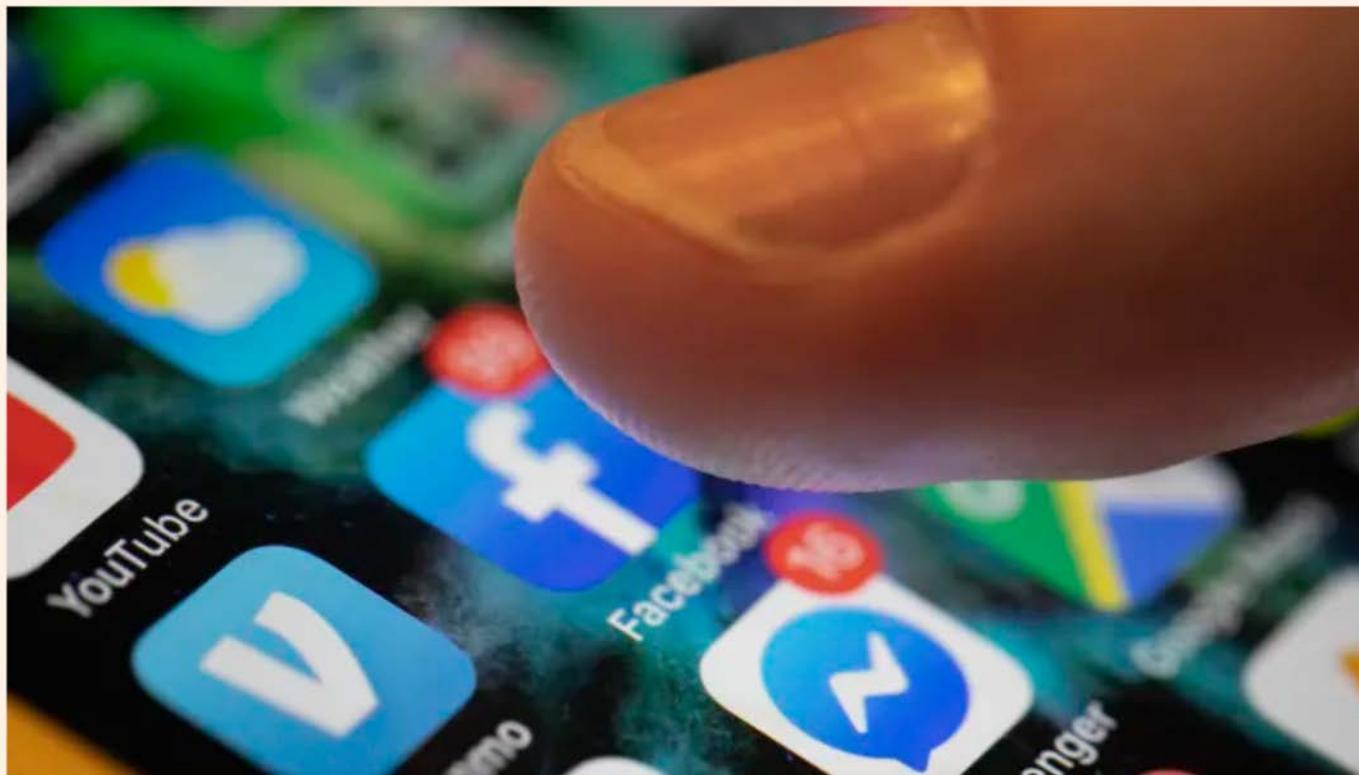


▲ Lawmakers have yet to take concrete action against fake news and misinformation.  
Photograph: Erik McGregor/Pacific/Barcroft

<https://www.theguardian.com/us-news/2019/jun/06/fake-news-how-misinformation-became-the-new-front-in-us-political-warfare>

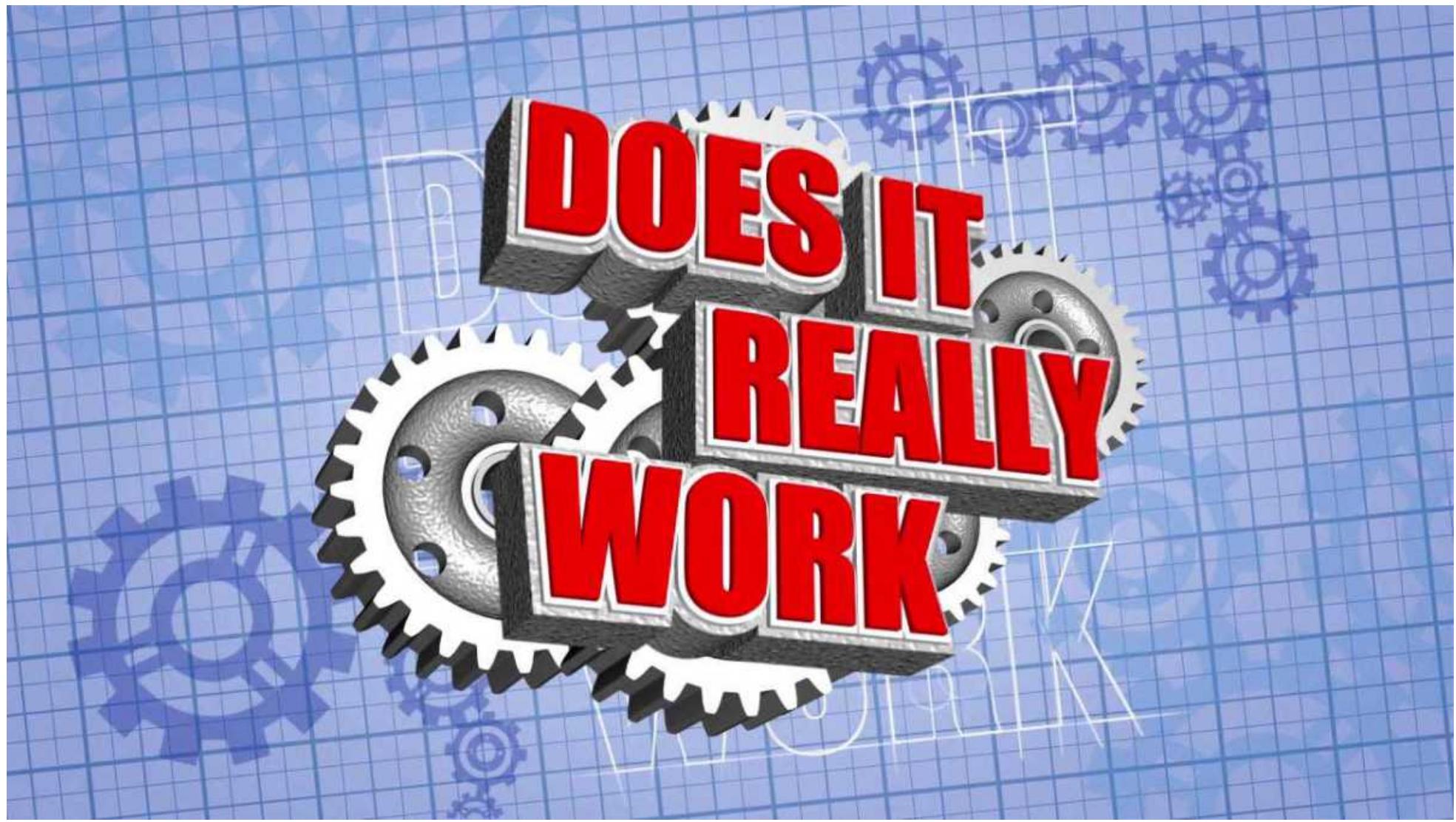
# Companies fear rise of fake news and social media rumours

Annual Kroll fraud report finds 84% of businesses feel threatened by digital hearsay



Data gleaned from 588 large companies across 13 countries comes after several corporates suffered at the hands of internet disinformation © AP

<https://www.ft.com/content/4241a2f6-e080-11e9-9743-db5a370481bc>



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We can help.

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IAS Integral  
Ad Science

TECH • HILLARY CLINTON

## Hillary Clinton Blames the Russians, Facebook, and Fake News for Her Loss



.doubleclick.net...

<https://fortune.com/2017/05/31/clinton-fake-news/>

ISSIE LAPOWSKY BUSINESS 04.04.18 05:43 PM

# FACEBOOK EXPOSED 87 MILLION USERS TO CAMBRIDGE ANALYTICA



<https://www.wired.com/story/facebook-exposed-87-million-users-to-cambridge-analytica/>

# Donald Trump will be president thanks to 80,000 people in three states



Donald Trump speaks in Washington in 2014. (Jewel Samad/AFP/Getty Images)



<https://www.washingtonpost.com/news/the-fix/wp/2016/12/01/donald-trump-will-be-president-thanks-to-80000-people-in-three-states/>

## NEWS

Home | Video | World | UK | Business | Tech | Science | Magazine | Entertainment &amp; Arts

Magazine

## The city getting rich from fake news

By Emma Jane Kirby  
BBC News

5 December 2016 | Magazine

[f](#) [t](#) [m](#) [e](#) [s](#)

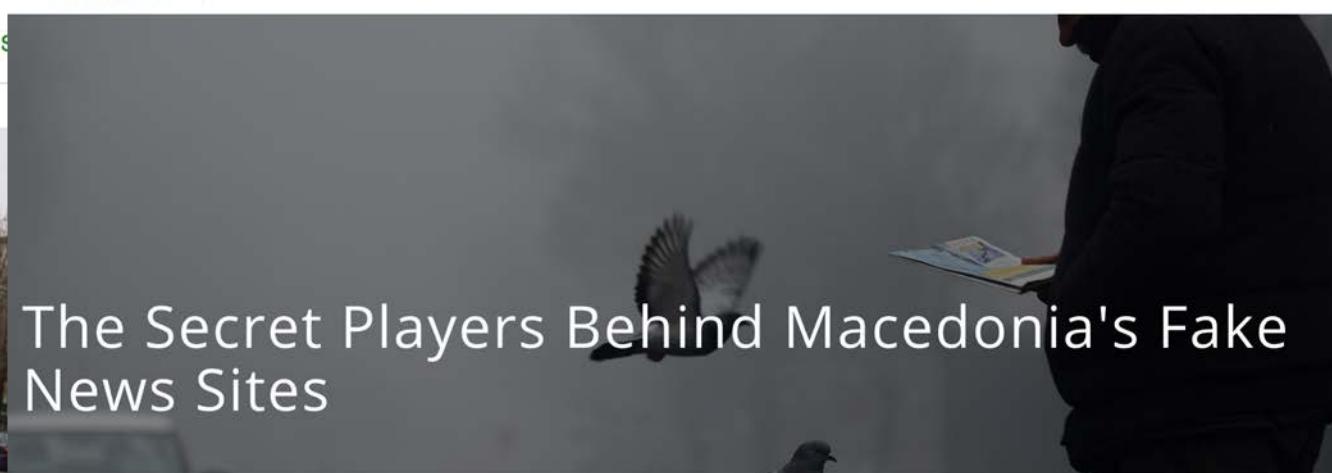
Many of the fake news websites that sprang up during the US election campaign have been traced to a small city in Macedonia, where teenagers are pumping out sensationalist stories to earn cash from advertising.

### In today's Magazine

**My partner vanished without warning. I had to**

OCCRP

SPOOKS AND SPIN: INFORMATION WAR IN THE BALKANS - THE SECRET PLAYERS BEHIND MACEDONIA'S FA...

[f](#) [t](#) [v](#) [k](#) [Русски](#)

## The Secret Players Behind Macedonia's Fake News Sites

Credit: Nake Batev / Getty Images

A joint investigation by the Organized Crime and Corruption Reporting Project (OCCRP) and partners has uncovered new information that rewrites the story of the fake news boom in the Macedonian town of Veles.

A week before Election Day in 2016, BuzzFeed News revealed that young men and teens in Veles were running over a hundred websites that pumped out often false viral stories that supported Donald Trump.

Media outlets from around the world descended upon Veles to tell the story of how the so-called fake news teens — many of whom had a shaky understanding of English

by Saska Cvetkovska, Aubrey Belford, Craig Silverman, and J. Lester Feder  
18 July 2018

[t](#) [f](#) [Donate](#)

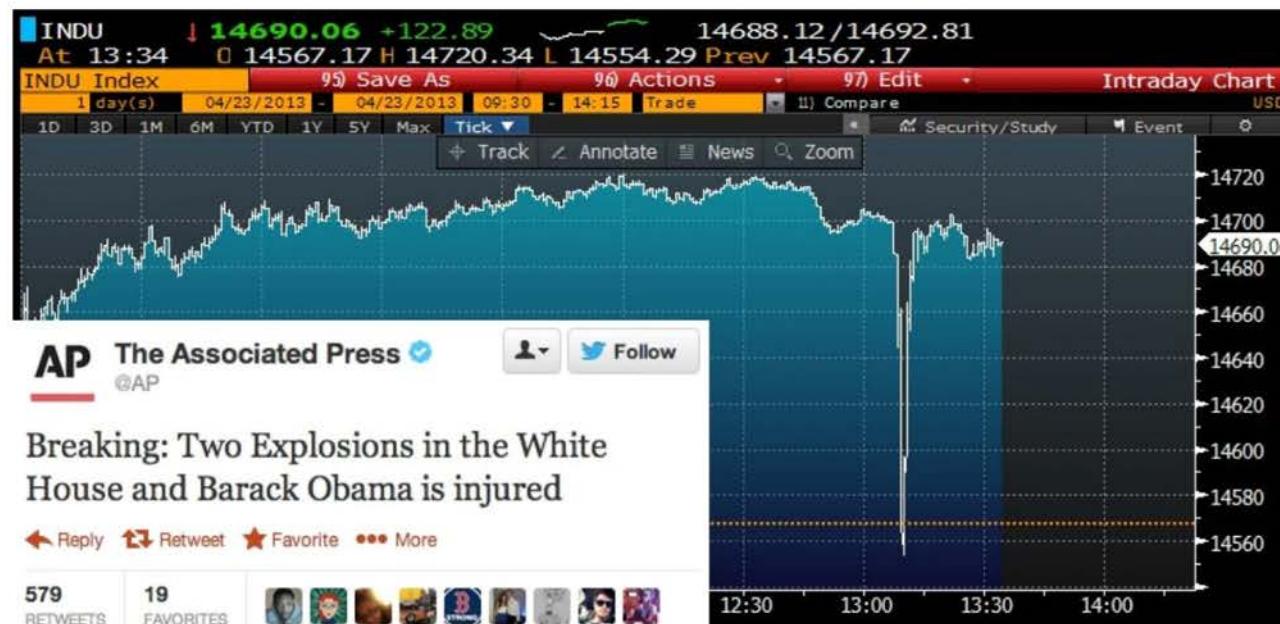
Above: A man reads a magazine near a newsstand in Skopje, Macedonia, 2017.  
Credit: Nake Batev / Getty Images

# Syrian hackers claim AP hack that tipped stock market by \$136 billion. Is it terrorism?

<https://www.washingtonpost.com/news/worldviews/wp/2013/04/23/syrian-hackers-claim-ap-hack-that-tipped-stock-market-by-136-billion-is-it-terrorism/>

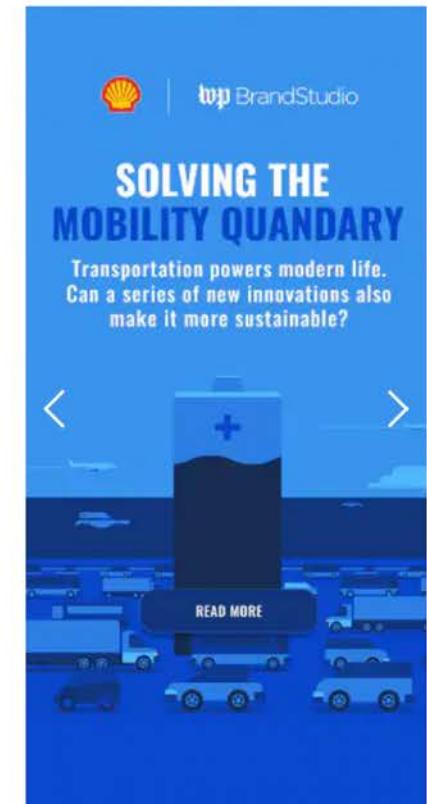
By Max Fisher

April 23, 2013



This chart shows the Dow Jones Industrial Average during Tuesday afternoon's drop, caused by a fake A.P. tweet, inset at left.

At 1:07 p.m. on Tuesday, when the official Twitter account of the Associated Press sent a [tweet](#) to its nearly 2 million followers that warned, "Breaking: Two Explosions in the White House and Barack Obama is injured," some of the people who momentarily panicked were apparently on or near the trading floor of the New York Stock Exchange.



# UNICEF blames anti-vaxxers for the 300% spike in global measles outbreaks

Published: Apr 25, 2019 3:49 p.m. ET



Aa

'The ground for the global measles outbreaks we are witnessing today was laid years ago,' report says



<https://www.marketwatch.com/story/unicef-blames-anti-vaxxers-for-the-300-spike-in-global-measles-outbreaks-2019-04-25>



Measles cases have spiked 300% around the world over the past year.

# Measles: Four European nations lose eradication status

<https://www.bbc.com/news/health-49507253>

6 hours ago | 100

f Share



It's a numbers game... if some people are not vaccinated, it can cause a big problem for us all

**Measles has returned to four European nations previously seen as free of the illness, according to the World Health Organization (WHO).**

The disease is no longer considered eradicated in Albania, the Czech Republic, Greece and the UK.

WORLD



4:13

+ QUEUE

DOWNLOAD

EMBED



# Viral WhatsApp Messages Are Triggering Mob Killings In India

July 18, 2018 · 9:12 AM ET

LAUREN FRAYER



<https://www.npr.org/2018/07/18/629731693/fake-news-turns-deadly-in-india>

## U.N. Fact Finders Say Facebook Played a 'Determining' Role in Violence Against the Rohingya



A girl looks out of her tent in the Balukhali refugee camp in Cox's Bazar, Bangladesh on Jan. 17, 2018. U.N. fact finders have pointed to the role that hate speech on social media has played in fueling anti-Rohingya sentiment and violence

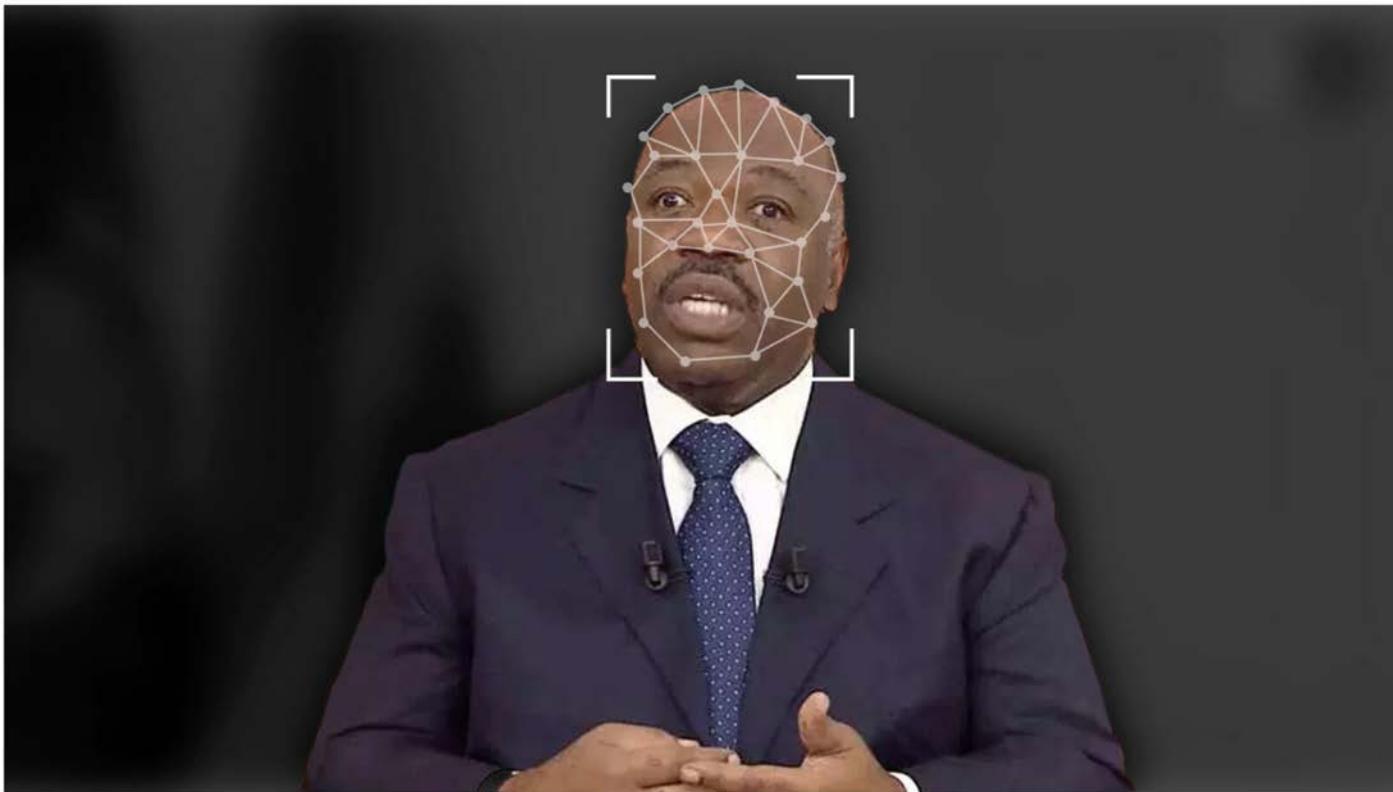
<https://time.com/5197039/un-facebook-myanmar-rohingya-violence/>

# A Military Coup in Gabon Inspired by a Potential Deepfake Video is Our Political Future



Ty Joplin

Published May 8th, 2019 - 09:54 GMT



<https://www.albawaba.com/news/military-coup-gabon-inspired-potential-deepfake-video-our-political-future-1284760>

Ali Bongo (Youtube, Rami Khoury/Al Bawaba)

A **video** of Gabon's President, Ali Bongo, appeared on Jan 1, 2019, sparking a wave of confused reactions inside the country.



# Web creator Tim Berners-Lee blasts Facebook, saying it makes his invention easy to 'weaponize'

Published: Mar 19, 2018 4:40 a.m. ET



Aa Aa

*On World Wide Web's 29th birthday, Tim Berners-Lee criticizes its "gatekeepers" such as Facebook and suggests more regulation*



Computer scientist Tim Berners-Lee, the "father of the World Wide Web."

<https://www.marketwatch.com/story/webs-creator-blasts-the-tech-giants-that-make-his-invention-easy-to-weaponize-2018-03-12>

# Can We Win the War on “Fake News”?

# Complex Problem, No Easy Solution

- Need for cooperation
  - social media, technology companies
  - governments
  - international organizations
  - civil society: journalists, fact-checkers, media, NGOs, etc.
  - researchers: academia, industry



# Finland is winning the war on fake news. What it's learned may be crucial to Western democracy

By Eliza Mackintosh, CNN

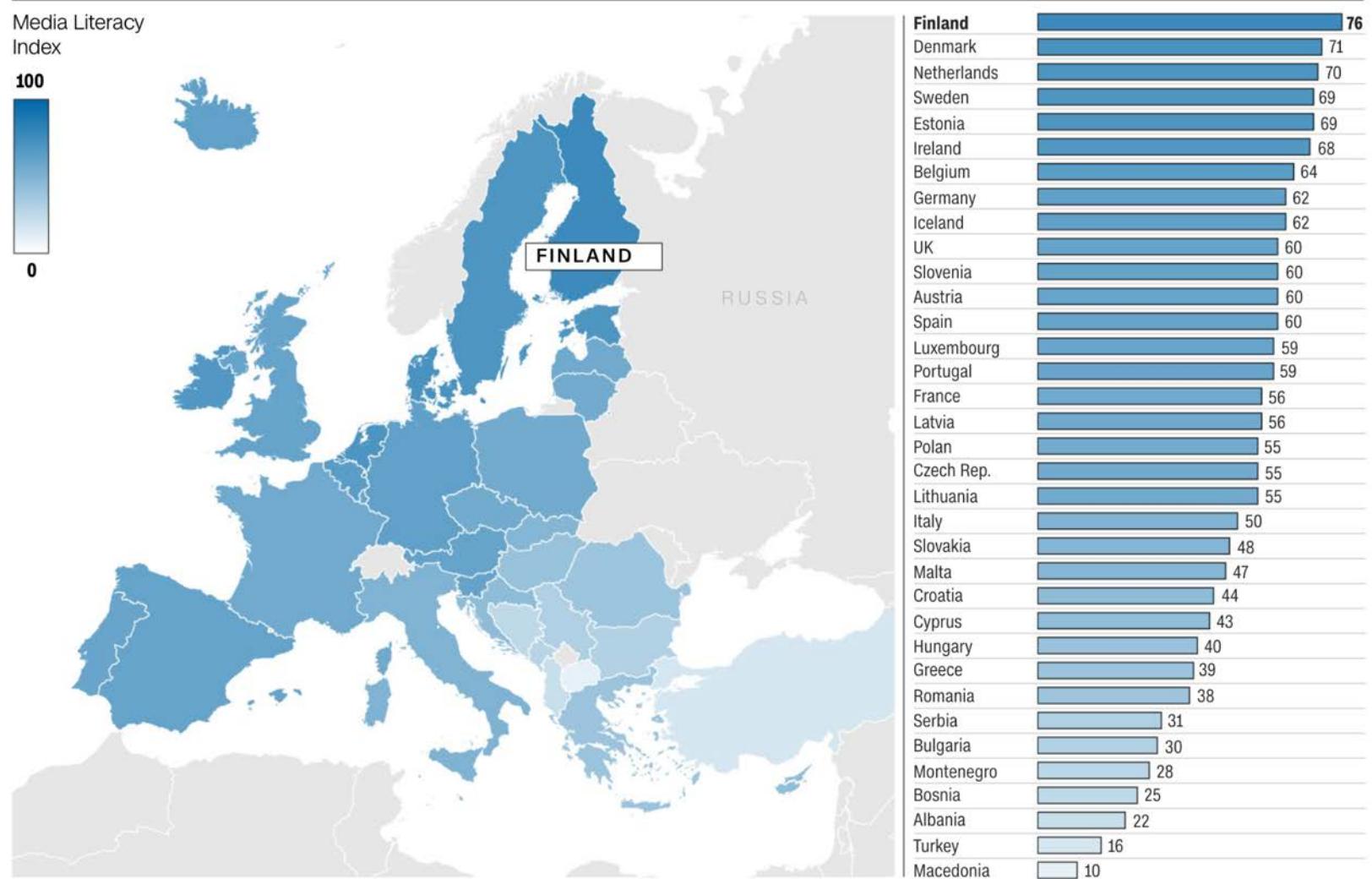
Video by Edward Kiernan, CNN



<https://edition.cnn.com/interactive/2019/05/europe/finland-fake-news-intl/>

## Media literacy across Europe

Finland ranked first out of 35 countries in a study measuring resilience to the post-truth phenomenon



Source: European Policies Initiative, Open Society Institute - Sofia, March 2018  
Graphic: Henrik Pettersson, CNN

<https://edition.cnn.com/interactive/2019/05/europe/finland-fake-news-intl/>



*“Propaganda becomes ineffective the moment we are aware of it.”*

Joseph Goebbels (1897-1945)

# The Tanbih Mega-Project

# *The Tanbih Mega-Project*



## Highlights:

- **Disinformation-aware news aggregator**
- **Media profiles:** help fact-check the news before it was even written
- **Fine-grained propaganda analysis:** trains people to recognize it

# The Tanbih Team at QCRI (*present & past*)



Preslav  
Nakov



Alberto  
Barrón-Cedeño



Giovanni  
Da San Martino



Hamdy  
Mubarak



Ahmed  
Abdelali



Banu Akdenizli  
(NU-Q)  
Steering Committee



Yifan  
Zhang



Kareem  
Darwish



Salvatore  
Romeo



Israa  
Jaradat



Shaden  
Shaar



Jisun  
An



Haewoon  
Kwak

Arabic  
Language  
Technologies

Social  
Computing

# MIT Collaborators (present & past)

**QCRI-MIT project: Arabic Speech and Language Processing  
for Cross-Language Information Search and Fact Verification**



Jim  
Glass



Mitra  
Mohtarami



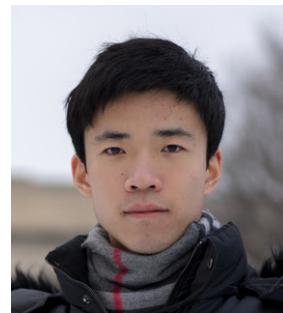
Abdelrhman  
Saleh



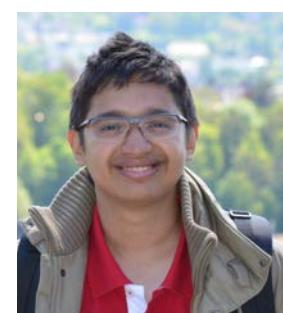
Seunghak Yu  
(QCRI-MIT)



Regina  
Barzilay



Yujia  
Bao



Darsh  
Shah



Ramy Baly  
(QCRI-MIT)

# Sofia University Collaborators (present & past)



Ivan Koychev



Momchil Hardalov



Todor Mihaylov



Tsvetomila Mihaylova



Georgi Karadzhov



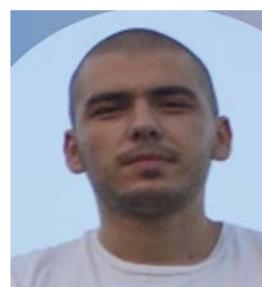
Pepa Gencheva



Spas Kyuchukov



Georgi Georgiev



Dimitar Aleksandrov



Slavena Vasileva



Todor Staykovski



Dimitar Kerezov



Daniel Shaprin



Stanislav Trifonov



Kristiyan Mitov



Dimitrina Zlatkova



Atanas Atanasov



Daniel Kopev



Peter Stefanov



Yoan Dinkov

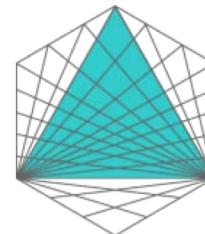
# Collaborations



SOFIA  
UNIVERSITY



ST. KLIMENT  
OHRIDSKI  
EST. 1888



Data Science Society



Carnegie  
Mellon  
University  
Qatar



NORTHWESTERN  
UNIVERSITY  
IN QATAR



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

# Media Bias and Factuality of Reporting

# Previous Work Focused on Fact-Checking

## *Claims, Rumors, Articles*



Elon Musk

@elonmusk

Following

Am considering taking Tesla private at \$420. Funding secured.

9:48 AM - 7 Aug 2018

## 'Putin is DEAD' Shock claims Vlad was killed YEARS ago and Russia led by 'body double'

Vladimir Putin was killed in a plot by the CIA and MI6 and replaced with a body double who still leads Russia, according to astonishing claims.

### During Farewell Address to Armed Forces, Obama URGES Soldiers to Do the Unthinkable to Trump

Like

Share

945 people like this. Be the first of your friends.



Do you agree with the Senate's vote on Kavanaugh?

Yes

No

Not sure

2,764 Votes • Promoted Content

There is no question this country has been infiltrated by the far-left. If you were expecting President Obama to engage in a civil discourse with the president-elect, then I am afraid you are sadly mistaken.

# But Can We Check All News and All Claims in the World?



THE DAILY NEWSLETTER  
Sign up to our daily email newsletter

# NewScientist

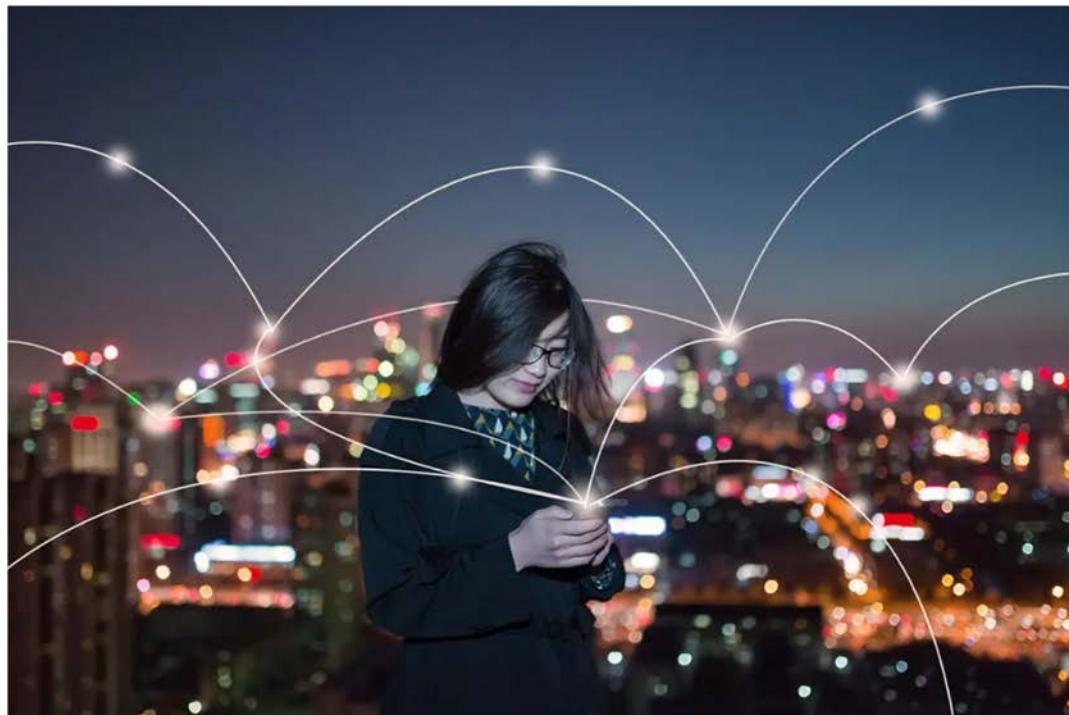
News **Technology** Space Physics Health Environment Mind Video | Tours Events Jobs

## Fake news travels six times faster than the truth on Twitter



TECHNOLOGY 8 March 2018

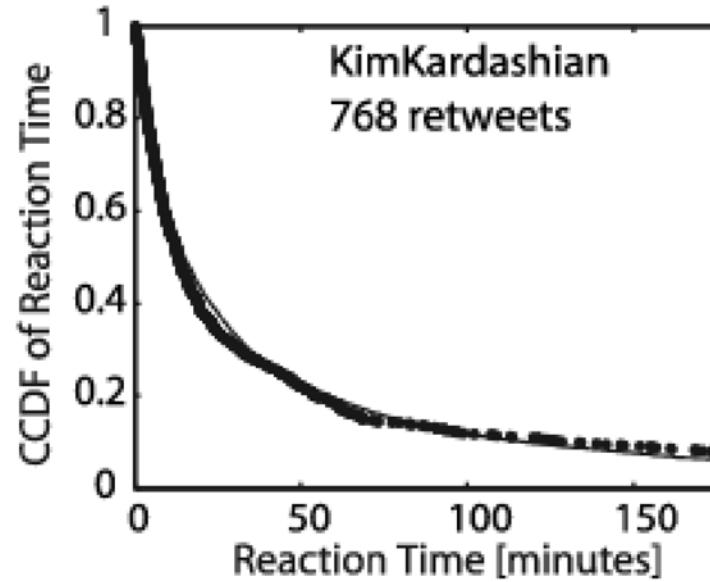
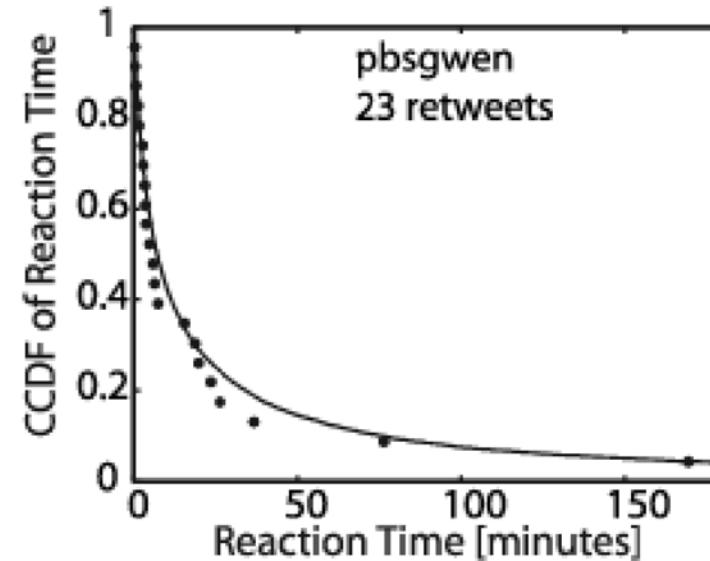
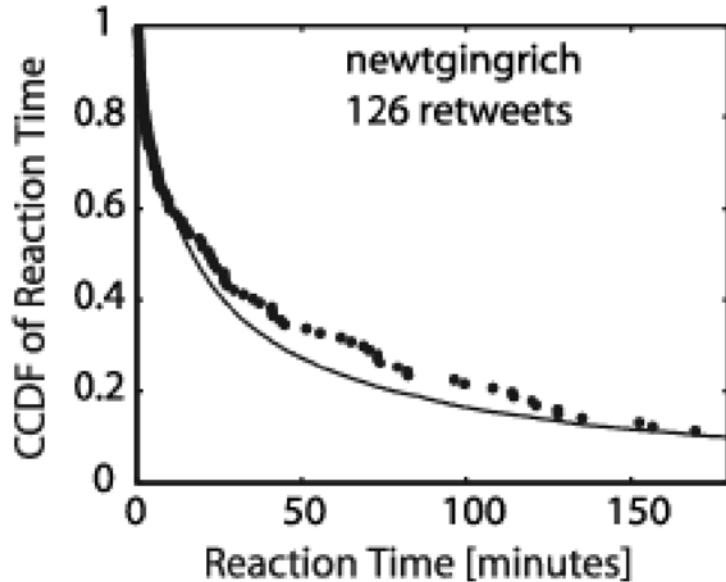
By [Chris Stokel-Walker](#)



News travels fast, especially when it's wrong

<https://www.newscientist.com/article/2163226-fake-news-travels-six-times-faster-than-the-truth-on-twitter/>

**50% of the spread  
of "fake news"  
on Twitter:  
<10 minutes**



Tauhid Zaman, Emily B. Fox, and Eric T. Bradlow  
A Bayesian approach for predicting the popularity of  
tweets.  
Ann. Appl. Stat. 8(3):1583-1611, 2014.  
<https://projecteuclid.org/euclid.aoas/1414091226>

# Fake News Generation Can be Also Automated

GPT-2: <https://taktotransformer.com>

Custom prompt

The price of oil just hit \$100 per barrel.

GENERATE ANOTHER

## Completion

**The price of oil just hit \$100 per barrel.**

"That's a price that we had not anticipated."

"I think we've got a pretty good idea as to what the market situation is going on," said Mr. Treloar.

"We can tell that the market is still holding at the high end of its range and we think it could continue to drop over the course of the remainder of the year or maybe for the rest of the year."

"We certainly look for oil to be in the \$60s to be around now."

Grover: <https://grover.allenai.org>

Oil is back above \$100. That should shock you into thinking more about energy policy. Or it should, but in fact it doesn't.

Yes, we might turn off the heat if we had to – but there's no way we can walk away from oil. It's an essential part of everyday life in almost all parts of the world.

And so we will continue to pump it. Probably, the oil-supply cartel OPEC (which always has good sense – remember this?).

That's going to be bad news for consumers everywhere, but especially in the energy-importing countries where more than half of our oil imports come from. Some of these markets are in major trouble, including Poland, India, and the East European region, but many other countries – led by Russia, Venezuela,

Iran, and Nigeria – are getting richer and will oil remains affordable.

Take a quiz:

<https://quiz.newsyoucantuse.com/>

# We Go After the Source

<http://www.angrypatriotmovement.com/>



Search the site



Would you like to retire rich?

Yes

During Farewell Address to Armed Forces, Obama URGES Soldiers to Do the Unthinkable to Trump



Like



Share

945 people like this. Be the first of your friends.



Do you agree with the Senate's vote on Kavanaugh?

Yes

No

Not sure

2,764 Votes · Promoted Content

There is no question this country has been infiltrated by the far-left. If you were expecting President Obama to engage in a civil discourse with the president-elect, then I am afraid you are sadly mistaken.

# Thus, We Can Detect “Fake News” Before It Was Even Written!





"We're OK" says British colleague of eight climbers feared dead in India

< >

1 of 2

NODE



## 'Nothing Short of Madness': Netanyahu Accused of Trying to Turn Israel Into Iran

2

1 of 2

MIDDLEEAST

69

# MEDIA BIAS/FACT CHECK

The Most Comprehensive Media Bias Resource



SEARCH ONLY MEDIA SOURCES (best results)



[HOME](#) [SEARCH](#) [ABOUT](#) [METHODOLOGY](#) [MBFC NEWS](#) [ORIGINAL ARTICLES/NEWS](#) [LIVE TV NEWS](#) [APPS/EXTENSIONS](#)  
[SUBMIT SOURCE](#) [SUBMIT FACT CHECK](#) [SOURCES PENDING](#) [FACTUAL NEWS SEARCH](#) [FILTERED SEARCH](#) [RSS](#)

(NEW) [HELP US FACT CHECK](#)

[Left Bias](#) [Left-Center Bias](#) [Least Biased](#) [Right-Center Bias](#) [Right Bias](#) [Pro-Science](#) [Conspiracy-Pseudoscience](#) [Questionable Sources](#)  
[Satire](#) [\(NEW\) Re-Evaluated Sources](#)

We are the most comprehensive media bias resource on the internet. There are currently 2500+ media sources listed in our database and growing every day. Don't be fooled by Fake News sources. Use the search feature above (Header) to check the bias of any source. Use name or url.

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LATEST

## The Angry Patriot

*Has this Media Source failed a fact check? LET US KNOW HERE.*

Share:



### QUESTIONABLE SOURCE

<http://www.angrypatriotmovement.com/>

A questionable source exhibits *one or more* of the following: extreme bias, overt propaganda, poor or no sourcing to credible information and/or is fake news. Fake News is the *deliberate attempt* to publish hoaxes and/or disinformation for the purpose of profit or influence ([Learn More](#)). Sources listed in the Questionable Category *may* be very untrustworthy and should be fact checked on a per article basis. Please note sources on this list *are not* considered *fake news* unless specifically written in the notes section for that source. [See all Questionable sources](#).

Bias: **Extreme Right, Conspiracy, Propaganda, Some Fake News**

Notes: The Angry Patriot is a very right wing biased website with many conspiracies and fake news stories. A very untrustworthy source that was placed on Politifact's [fake news](#) source list.  
(10/9/2016) Updated (6/20/2017)

# UN Says Climate Genocide Is Coming. It's Actually Worse Than That.

New York Magazine

By David Wallace-Wells

*Has this Media Source failed a fact check? LET US KNOW HERE.*



Share:



## LEFT BIAS

These media sources are moderately to strongly biased toward liberal causes through story selection and/or political affiliation. They may utilize strong loaded words (wording that attempts to influence an audience by using appeal to emotion or stereotypes), publish misleading reports and omit reporting of information that may damage liberal causes. Some sources in this category may be untrustworthy. [See all Left Bias sources.](#)

You now have permission to freak out. Photo: George Rose/Getty Images

Factual Reporting: **HIGH**

ENERGY & ENVIRONMENT

# Doubling Down on Global-Warming Alarmism

By JONATHAN S. TOBIN | October 11, 2018 6:30 AM



National Review

*Has this Media Source failed a fact check? LET US KNOW HERE.*

Share:



## RIGHT BIAS

These media sources are moderately to strongly biased toward conservative causes through story selection and/or political affiliation. They may utilize strong loaded words (wording that attempts to influence an audience by using appeal to emotion or stereotypes), publish misleading reports and omit reporting of information that may damage conservative causes. Some sources in this category may be untrustworthy. [See all Right Bias sources.](#)

Al Gore at a premiere of *An Inconvenient Truth*, Hong Kong

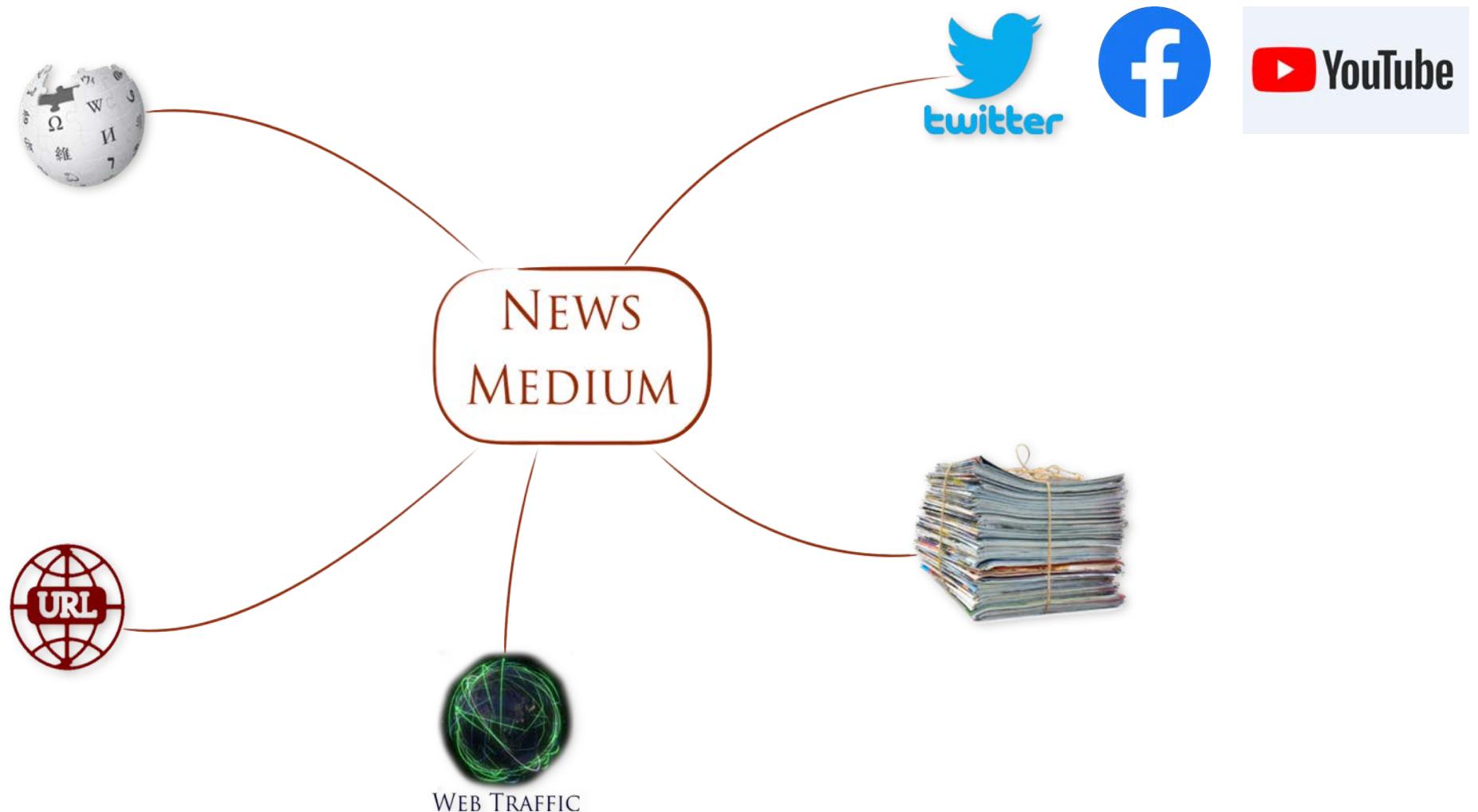
Factual Reporting: **MIXED**

World Press Freedom Rank: **USA 45/180**

# Modeling Factuality and Bias

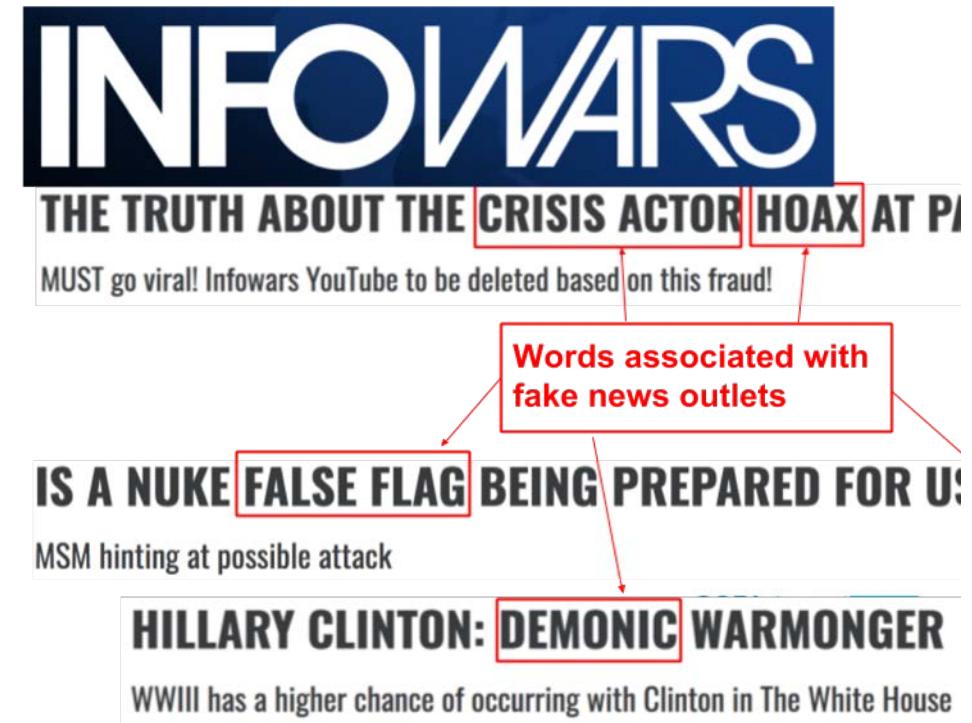
Name	URL	Bias	Factuality
London Web News	londonwebnews.com	Extreme Left	Low
Daily Mirror	www.mirror.co.uk	Left	Mixed
NBC News	www.nbcnews.com	Center-Left	High
Associated Press	apnews.com	Center	Very High
Gulf News	gulfnews.com	Center-Right	High
Russia Insider	russia-insider.com	Right	Mixed
Breitbart	www.breitbart.com	Extreme Right	Low

# Modeling Factuality and Bias in the News



# Article Features: Title and Body

- **Linguistic structure:** function words, pronouns
- **Sentiment**
- **Bias**
- **Subjectivity**
- **Topic**
- **Text complexity**
- **Morality**



# Wikipedia Features

- Has Wikipedia page?
- Embedding for the text in
  - Infobox
  - Summary
  - Content
  - Categories
  - Table of Contents

## *National Review*

From Wikipedia, the free encyclopedia

*This article is about the American magazine. For other uses, see [National Review \(disambiguation\)](#).*

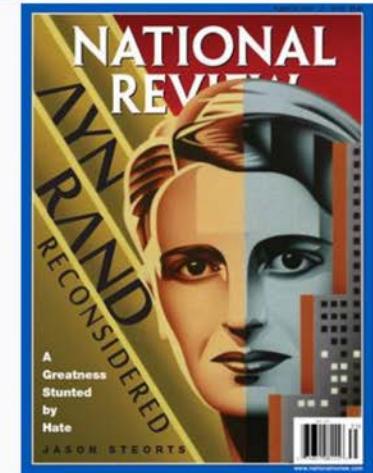
**National Review (NR)** is an American semi-monthly conservative editorial magazine focusing on news and commentary pieces on political, social, and cultural affairs. The magazine was founded by the author William F. Buckley Jr. in 1955.<sup>[3]</sup> It is currently edited by Rich Lowry.

Since its founding, the magazine has played a significant role in the development of conservatism in the United States, helping to define its boundaries<sup>[3]</sup> and promoting fusionism while establishing itself as a leading voice on the American right.<sup>[3][4][5]</sup>

The online version, **National Review Online**, is edited by Charles C. W. Cooke and includes free content and articles separate from the print edition.<sup>[6]</sup>

<b>Contents</b> [hide]
1 History
1.1 Background
1.2 Early years
1.3 Contributors
1.4 Mission to conservatives
1.5 Defining the boundaries of conservatism
1.6 After Goldwater
2 Political views and content
2.1 Donald Trump

**National Review**



National Review cover for August 30, 2010

Editor	Rich Lowry
Categories	Editorial magazine, conservatism
Frequencies	Bimonthly

# Twitter Features

- **Counts:** friends, statuses, favorites
- **Has Twitter account?**
- **Has location information?**
- **Verified?**
- **Years in existence**
- **Text description**

The Angry Patriot  
@loki\_jcrusader

An Army Combat Vet ('99 to present). NCO. Crusader. Republican. Take back our country. #MAGA America First!

📍 USA  
Joined February 2012

Tweets 645 Following 404 Followers 333 Likes 843

[Follow](#)

**Tweets** **Tweets & replies** **Media**

Retweeted by Dan Bongino @dbongino · Jul 22

Dear Media Hacks,  
Now that the the FISA application has been released, & you've been completely humiliated for promoting the Russian collusion hoax, may I suggest that you all collectively submit letters of resignation? Your reputations are forever tarred.  
Thanks for considering.

1.5K 17K 44K

Retweeted by The Angry Patriot

# URL Features

- **Length**
- **Use of special characters**
  - digits
  - dashes
  - underscores
- **Use of https**
- **Is it hosted on a blog platform?**
- **Can the URL be chopped into meaningful words?**
- **What is the top-level domain?**

<http://www.angrypatriotmovement.com/>

<http://alternativemediasyndicate.com>

<http://100percentfedup.com/>

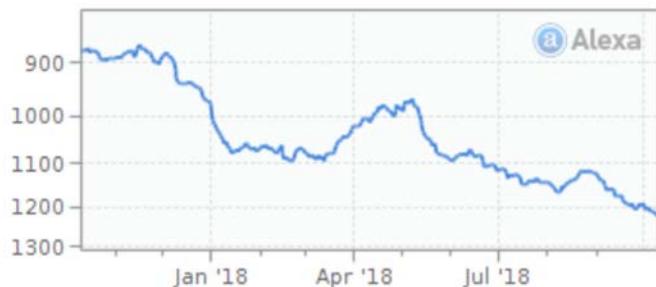
<http://abcnews.com.co>

# Web Traffic Features

How popular is abcnews.go.com?

## Alexa Traffic Ranks

How is this site ranked relative to other sites?



Global Rank ?

1,220 ▼ 92

Rank in United States ?

324

How popular is abcnews.com.co?

## Alexa Traffic Ranks

How is this site ranked relative to other sites?



Global Rank ?

2,767,435 ▼ 664,690

# Youtube Features

<https://youtube-politics.herokuapp.com/media/the-patriot-post>

YouTube Politics Media Annotate About Search...

## The Patriot Post



### Breitbart's Ben Shapiro Gives CNN's Piers Morgan a Smackdown

COMPLETE Ben Shapiro CUTS Piers Morgan DOWN

YouTube

#### Bias distribution



#### Video stats

Views	2087
Likes	35
Dislikes	0
Comments	14

#### Speech episodes

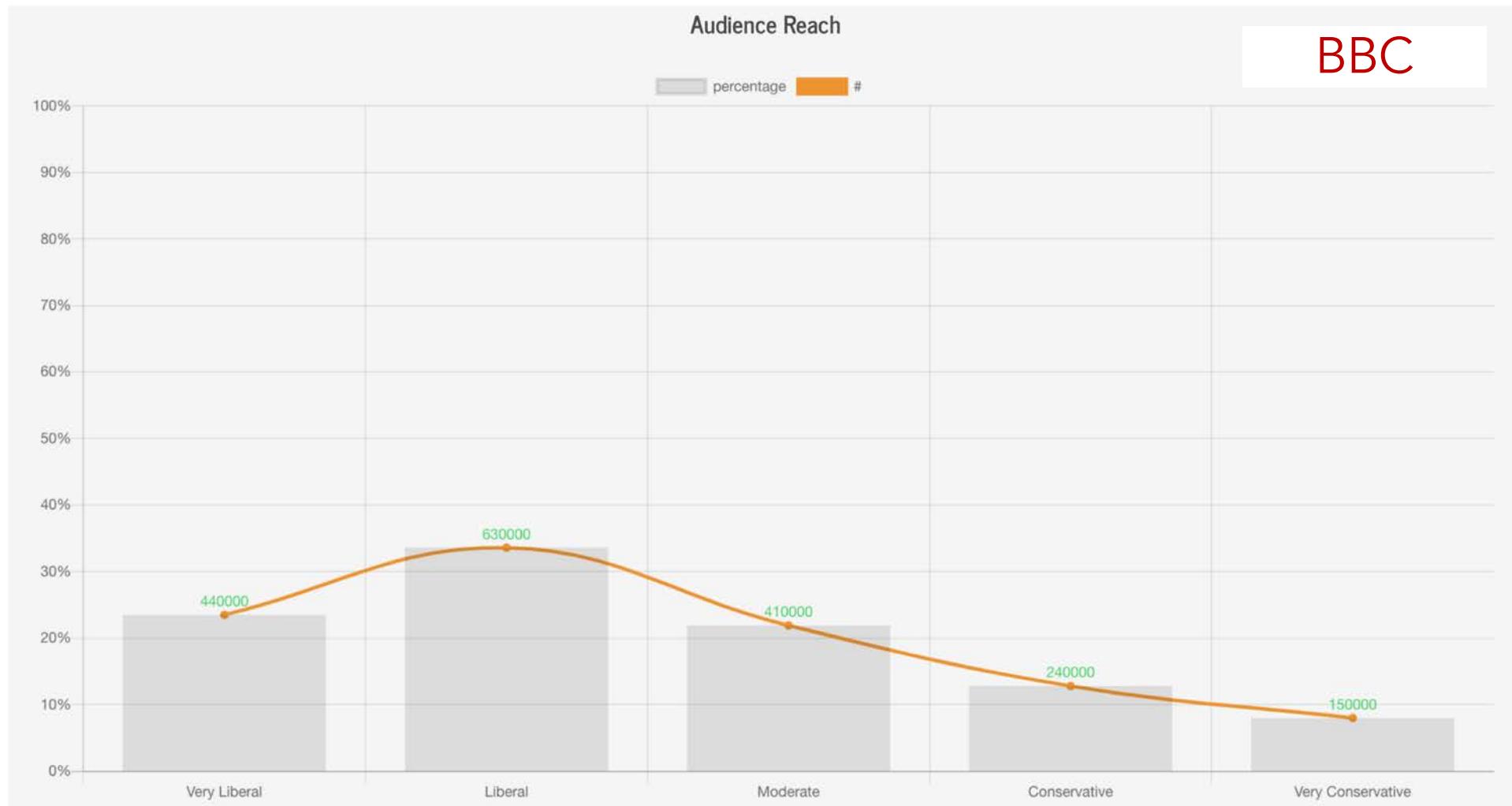


## Analyzed videos

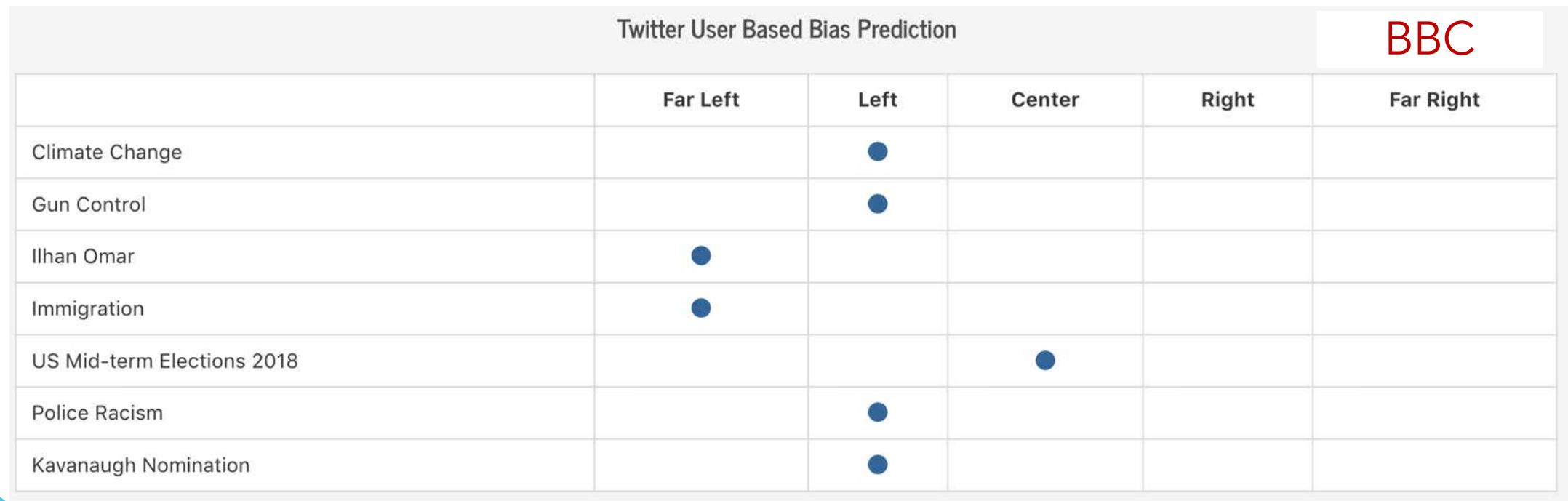


right right right  
right right right  
center right right

# Audience Reach (in Facebook)



# Audience Bias (in Twitter)



# Factuality of Reporting

	<b>Source (Features)</b>	<b>Dim.</b>	<b>Macro <math>F_1</math></b>	<b>Accuracy</b>	<b>MAE</b>
1	Majority class baseline	–	21.0	46.0	0.813
2	Baly et al. (2018)	764	62.2	65.9	0.420
3	Articles (NELA)	141	56.6	61.0	0.486
4	Articles (BERT)	768	63.5	66.4	0.390
5	Articles (Articles Agg.)	2	53.9	68.1	0.371
6	Articles (NELA, BERT + Articles Agg.)	911	<b>79.8</b>	<b>80.1</b>	<b>0.222</b>
7	Wikipedia (BERT)	768	49.6	55.5	0.597
8	Twitter (Media Profiles)	779	48.2	53.1	0.653
9	Twitter (Followers)	768	55.5	59.7	0.551
10	YouTube (Metadata + Text + Acoustics)	2,186	34.3	47.3	0.780
11	Facebook (Audience ideology)	6	23.9	47.1	0.804
12	All Social Media (lines 8–11)	3,739	56.5	60.7	0.518
13	All Sources (lines 6–11)	5,418	77.6	77.9	0.246

Ramy Baly, Georgi Karadzhov, Dimitar Alexandrov, James R. Glass, Preslav Nakov:  
*Predicting Factuality of Reporting and Bias of News Media Sources*. EMNLP 2018

# Media Bias: left-center-right

Source (Features)	Approaches	Macro $F_1$	Accuracy	MAE
-	Majority class baseline	24.5	37.1	0.689
	Baly et al. (2018)	62.2	65.9	0.420
All Social Media	Single classifier	65.5	68.0	0.437
	Ensemble 1	67.8	71.3	0.381
	Ensemble 2	69.6	71.8	0.364
	Ensemble 2 (weighted)	72.1	74.3	0.334
All Social Media + Articles	Single classifier	75.0	75.9	0.326
	Ensemble 1	74.4	77.4	0.304
	Ensemble 2	75.7	78.7	0.276
	Ensemble 2 (weighted)	79.8	81.5	0.243
All Social Media + Articles + Wikipedia	Single classifier	75.2	76.6	0.313
	Ensemble 1	77.0	79.1	0.290
	Ensemble 2	75.8	78.8	0.278
	Ensemble 2 (weighted)	<b>80.3</b>	<b>81.9</b>	<b>0.238</b>

Ramy Baly, Georgi Karadzhov, Dimitar Alexandrov, James R. Glass, Preslav Nakov:  
*Predicting Factuality of Reporting and Bias of News Media Sources.* EMNLP 2018

# Non-English Media Profiling



Kristeligt Dagblad



ΕΛΛΗΝΙΚΟΣ ΤΥΠΟΣ **EleftherosTypos.gr**  
**Süddeutsche Zeitung**

**LA STAMPA**

LE JOURNAL FONDÉ PAR JEAN JAURÈS  
**I'Humanité**

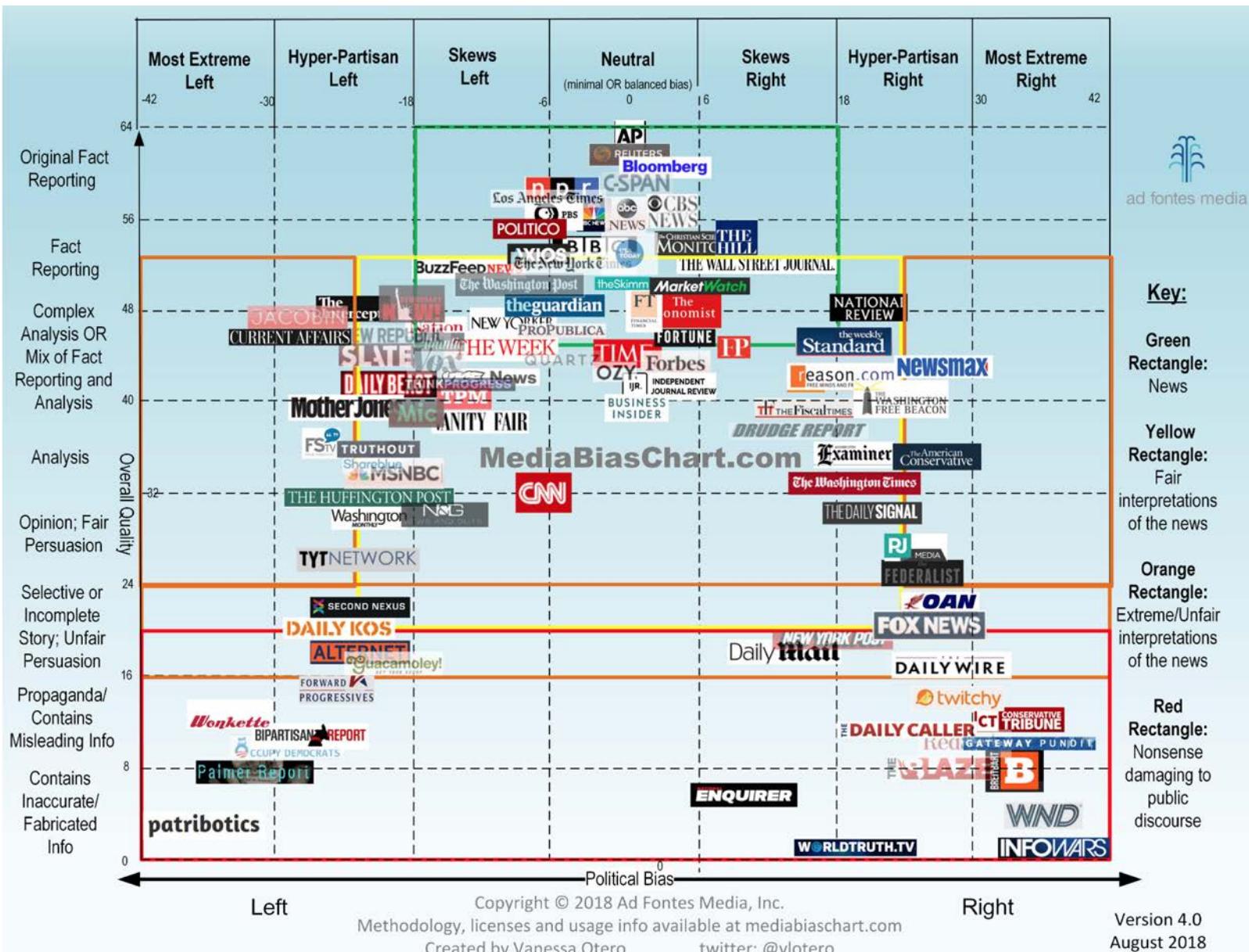
## When Left Is Right: Party Ideology and Policy in Post-Communist Europe

MARGIT TAVITS *Washington University in St. Louis*  
NATALIA LETKI *University of Warsaw*

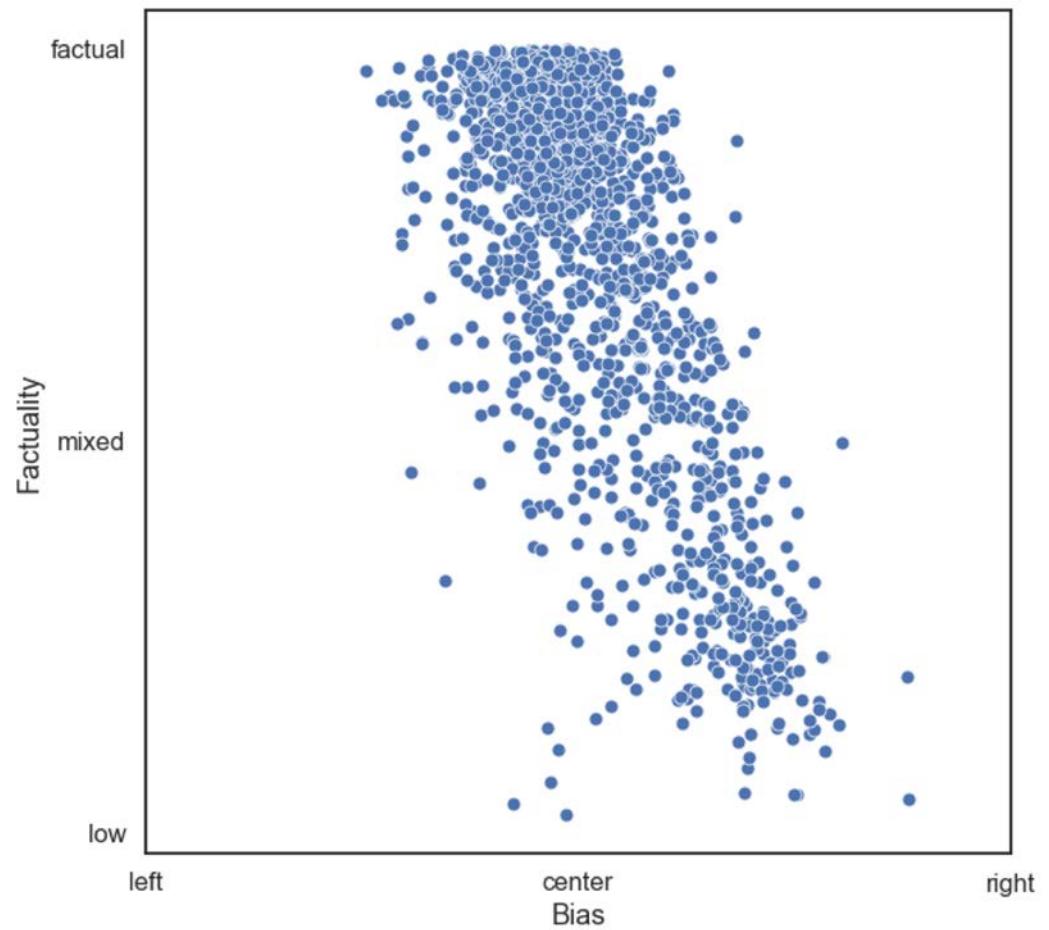
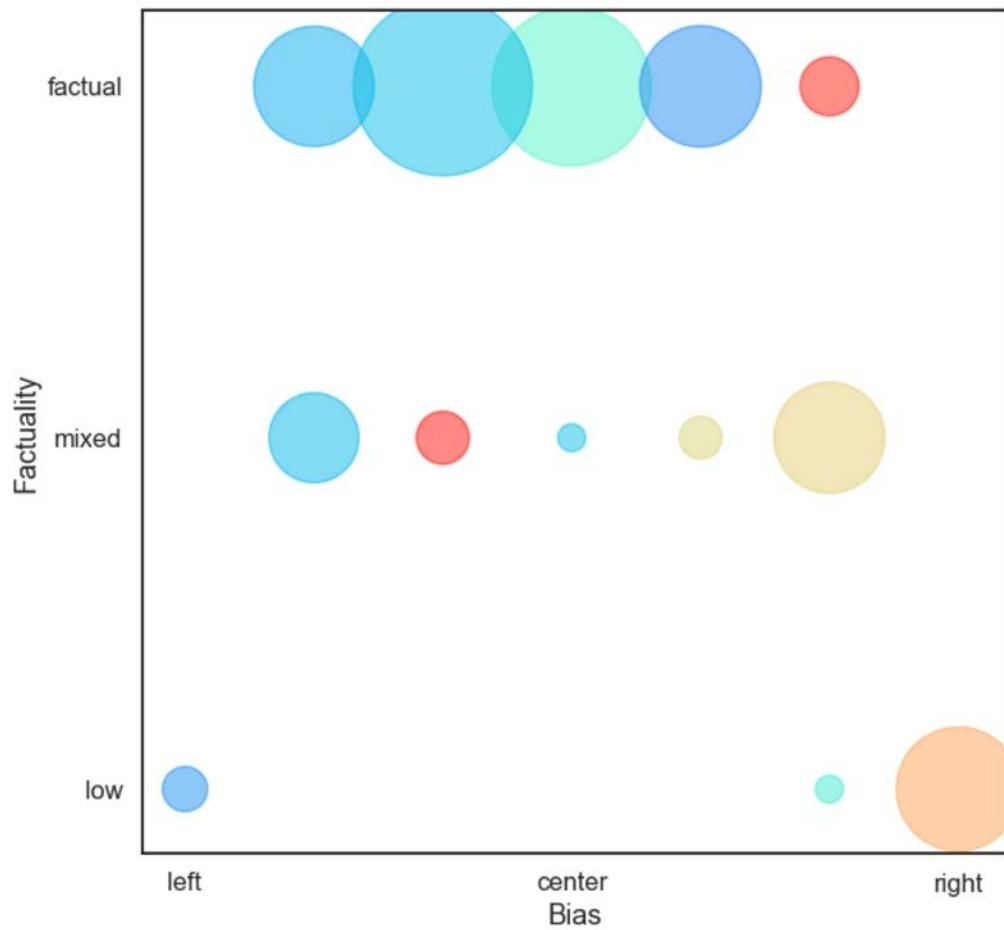
**A**ccording to the classic partisan theory of spending, leftist parties are expected to increase government spending, and rightist parties are expected to decrease it. We argue that this relationship does not hold in post-Communist countries, where in the context of dual transition to democracy and to a market economy, leftist parties have had stronger incentives and better opportunities to enact tighter budgets, whereas rightist parties were compelled to spend more in order to alleviate economic hardships. We illustrate this theoretical argument with case studies from Hungary and Poland. We then test and find support for our theory by considering the influence of cabinet ideology on total, health, and education spending in thirteen post-Communist democracies from 1989 to 2004. We explore various alternative explanations and provide further narratives to support our causal argument.

The traditional partisan theory of policy outcomes predicts that left wing and right wing parties propose and adopt drastically different budgets. Because the Left prefers more government control of the economy and the Right advocates reliance on the market, leftist governments are expected to produce a bigger government in general and increased welfare (including health and education) spending in particular than rightist parties. The empirical research on advanced, mostly Western European democracies generally supports this theory (see, e.g., Alesina and Roubini

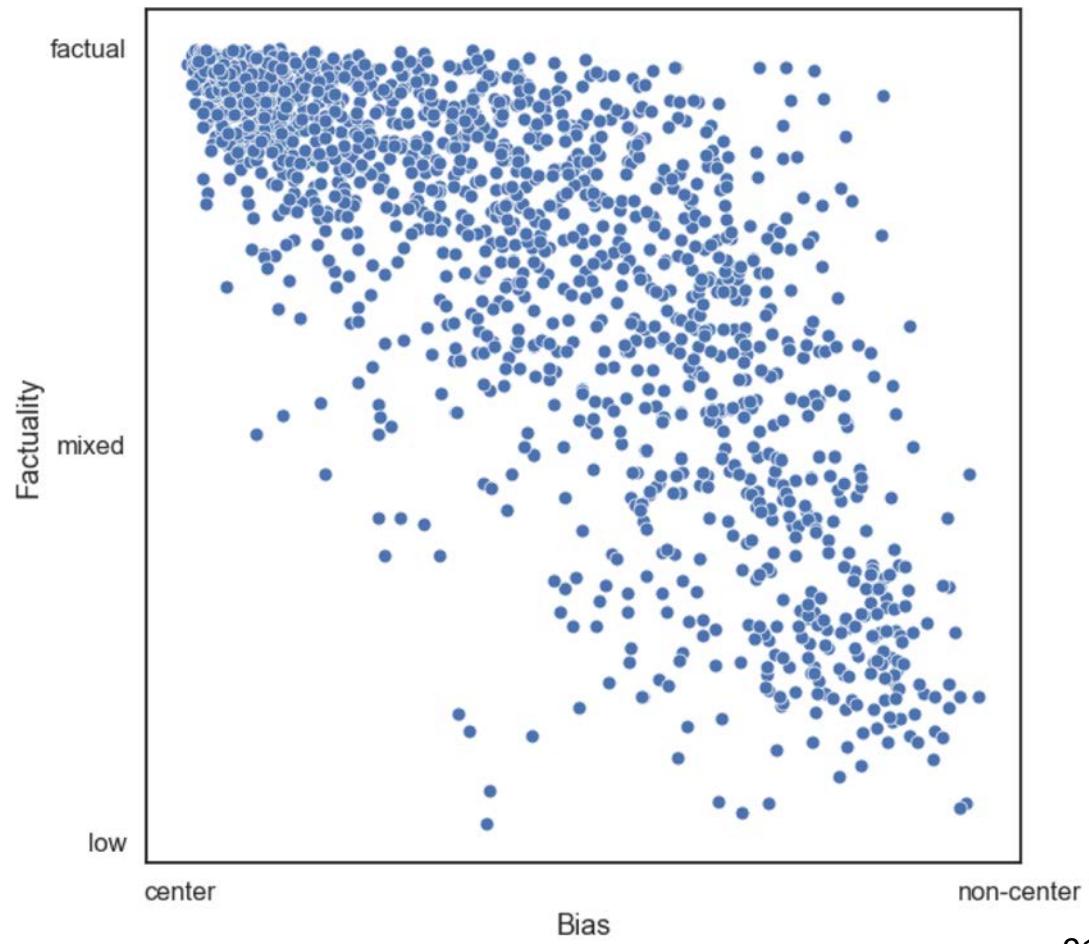
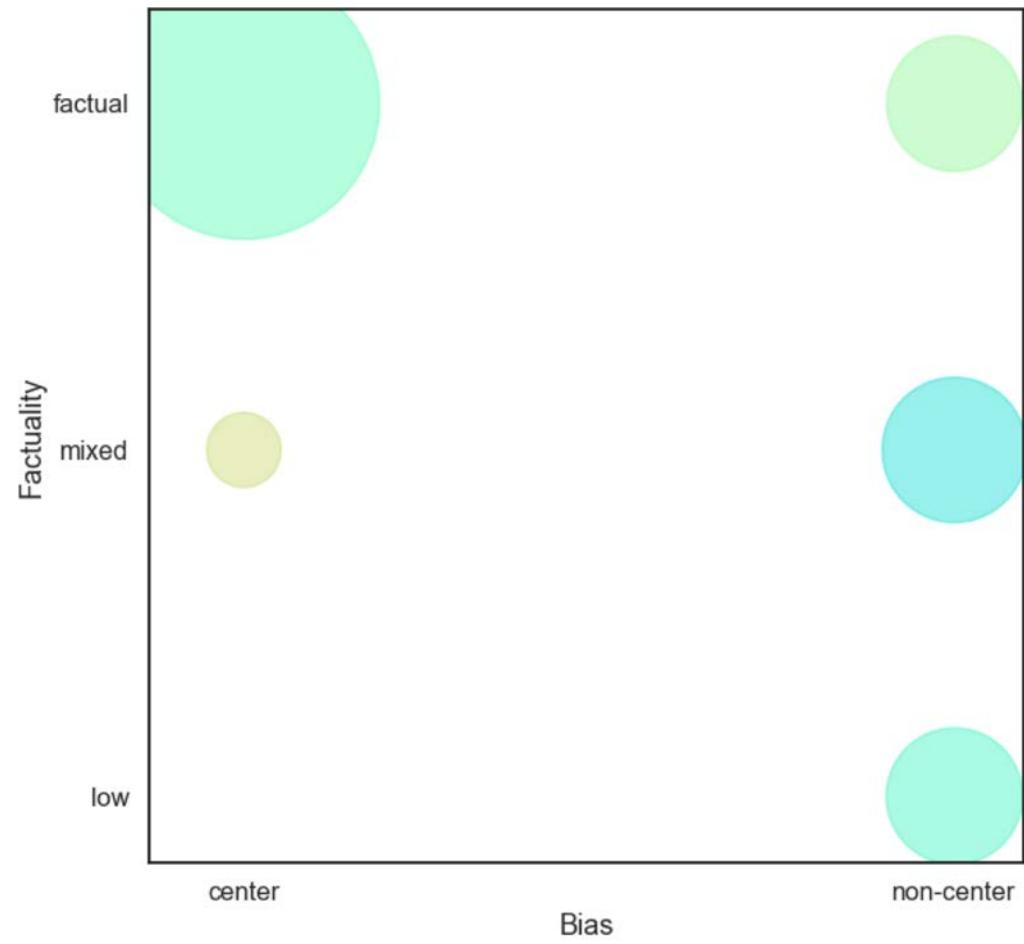
not only did leftist parties have an incentive to pursue rightist economic policies, but they also had better opportunities to do so. Leftist parties could count on a loyal electorate, and therefore, policy reversals did not constitute a major threat to the stability of their electoral base. Their voter loyalty resulted from three reasons: (1) the traditional pro-welfare image of leftist parties provided a safeguard against voter punishment because budget cuts by the Left, unlike those by the Right, could be interpreted as absolutely essential; (2) leftist parties in the region were much more consci-



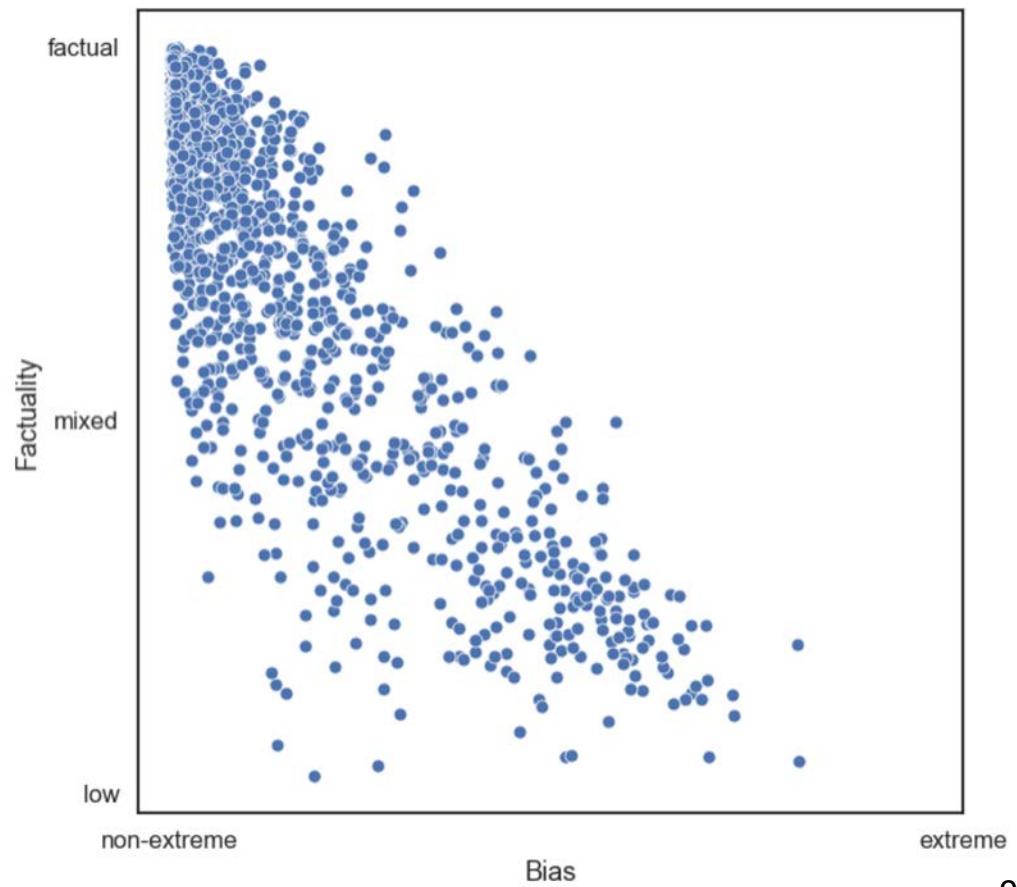
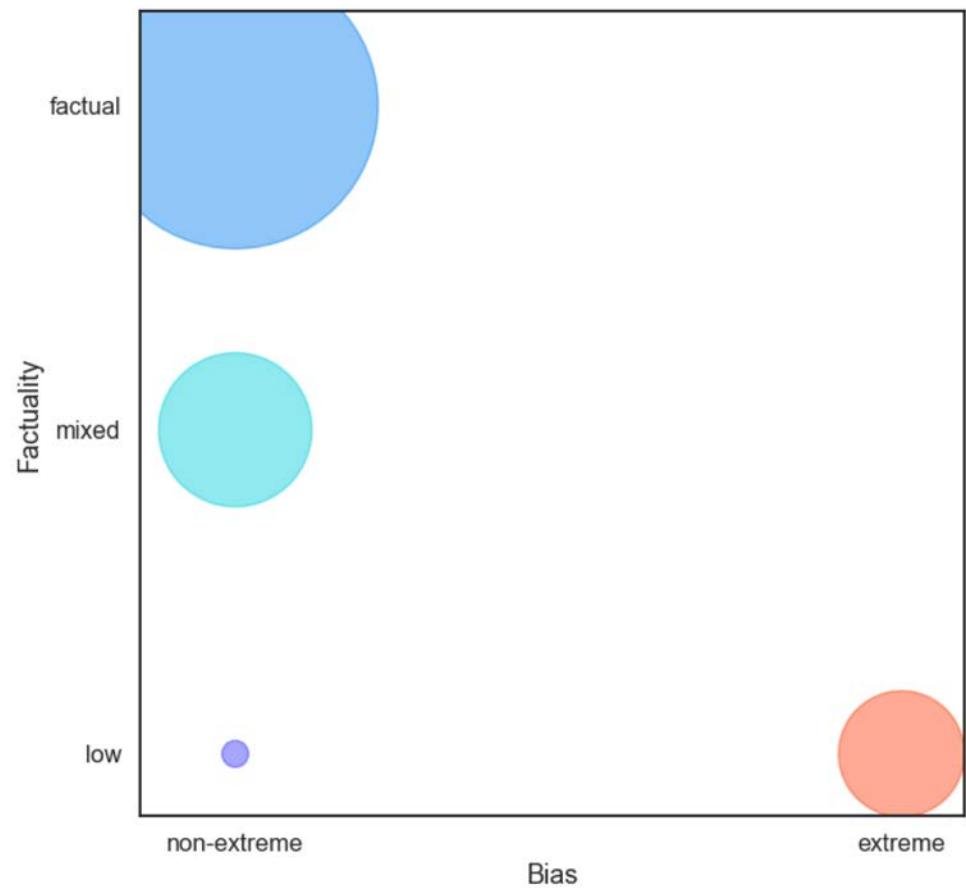
# Bias vs. Factuality



# Center vs. Non-Center

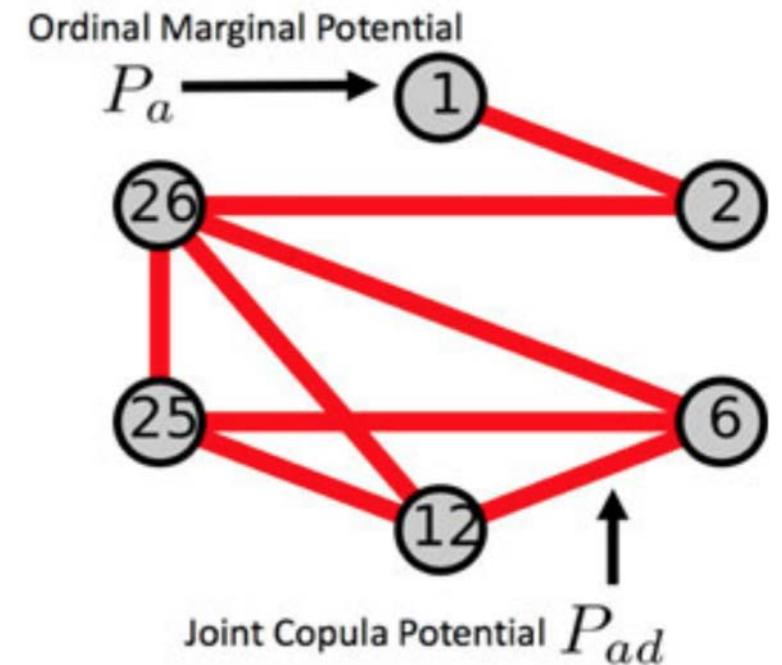


# Hyper-Partisanship



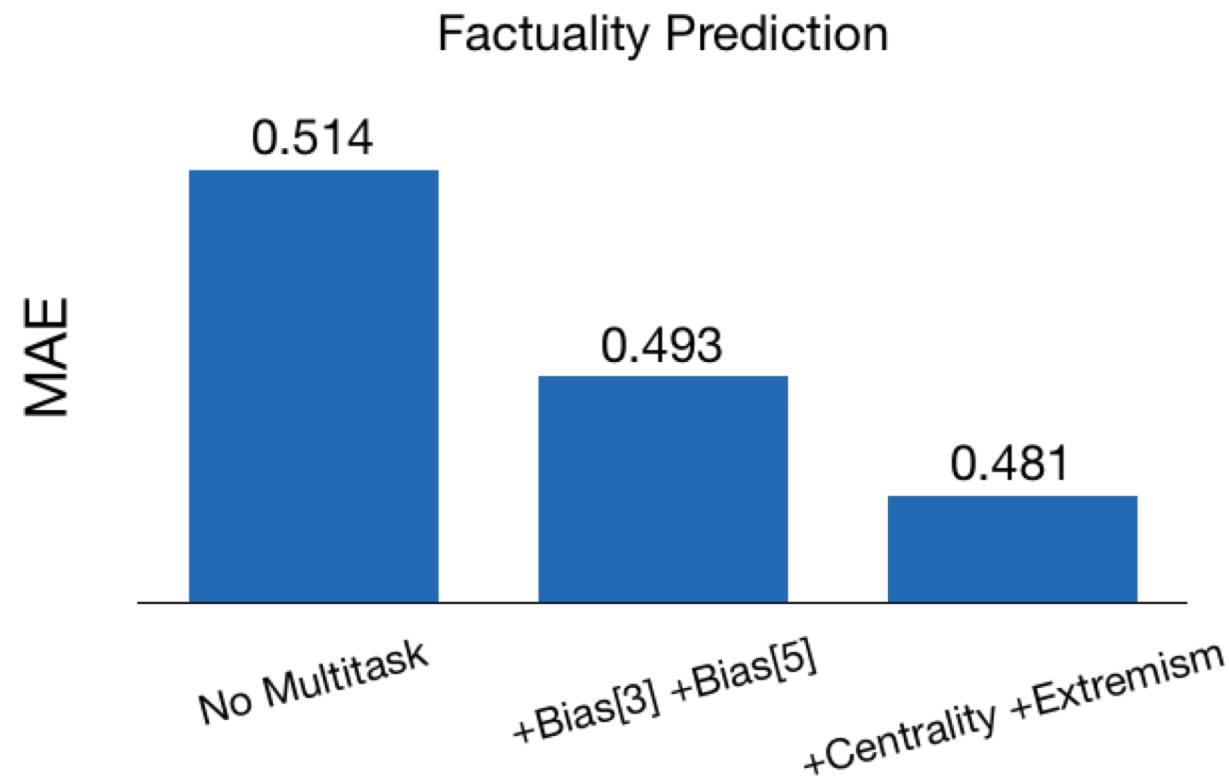
# Multitask Ordinal Regression for Factuality & Bias

- **Ordinal regression**
- **Learn jointly**
  - Factuality
  - Left-center-right bias
    - 7-point
    - 5-point
    - 3-point
  - Centrality
  - Hyper-partisanship



Ramy Baly, Georgi Karadzhov, Abdelrhman Saleh, James R. Glass, Preslav Nakov:  
*Multi-Task Ordinal Regression for Jointly Predicting the Trustworthiness and the Leading Political Ideology of News Media.*  
NAACL-HLT 2019

# Multitask Ordinal Regression for Factuality



Ramy Baly, Georgi Karadzhov, Abdelrhman Saleh, James R. Glass, Preslav Nakov:  
*Multi-Task Ordinal Regression for Jointly Predicting the Trustworthiness and the Leading Political Ideology of News Media.*  
NAACL-HLT 2019

# Predicting Factuality of Reporting and Bias of News Media Sources

Ramy Baly (1), Georgi Karadzhov (3), Dimitar Alexandrov (3), James Glass (1), Preslav Nakov (2) ((1) MIT

Computer Science and Artificial Intelligence Laboratory, (2) Qatar Computing Research Institute, HBKU, Qatar, (3) Sofia University, Bulgaria)

(Submitted on 2 Oct 2018)

We present a study on predicting the factuality of reporting and bias of news media. While previous work has focused on studying the veracity of claims or documents, here we are interested in characterizing entire news media. These are under-studied but arguably important research problems, both in their own right and as a prior for fact-checking systems. We experiment with a large list of news websites and with a rich set of features derived from (i) a sample of articles from the target news medium, (ii) its Wikipedia page, (iii) its Twitter account, (iv) the structure of its URL, and (v) information about the Web traffic it attracts. The experimental results show sizable performance gains over the baselines, and confirm the importance of each feature type.

Comments: Fact-checking, political ideology, news media, EMNLP-2018

Subjects: **Information Retrieval (cs.IR); Machine Learning (cs.LG); Machine Learning (stat.ML)**

Cite as: [arXiv:1810.01765 \[cs.IR\]](#)

(or [arXiv:1810.01765v1 \[cs.IR\]](#) for this version)

EMNLP'2018: Predicting Factuality of Reporting and Bias of News Media Sources

**MIT  
Technology  
Review**

**MIT News**

ON CAMPUS AND AROUND THE WORLD



**siliconrepublic**



**NEW ATLAS**



**Forbes ScienceDaily®**

**FAST COMPANY** **Público** **engadget**  
**POPULAR SCIENCE**

**The Register® catch**

**GEEK.COM**

**iThome**

**DAILY NEWS**  
EGYPT



**Nextgov**

**البوابة albawaba**



**sina 新浪科技**

# Detecting fake news at its source

Machine learning system aims to determine if an information outlet is accurate or biased.

MACHINES

## **Facebook might be eager to get its hands on this latest ‘fake news’ AI**

by *Colm Gorey*

4 OCT 2018

195 VIEWS

---

Intelligent Machines

---

## **Even the best AI for spotting fake news is still terrible**

It should be possible to automatically identify dubious news sources—but we’ll need a lot more data.

[THE POINT](#)[AUTHORS](#)[STORE](#)[DAVID HOROWITZ](#)[WHO WE ARE](#)[DH TV](#)

# MIT ALLIES WITH ISLAMIC TERROR STATE TO CENSOR CONSERVATIVES

October 9, 2018   Daniel Greenfield

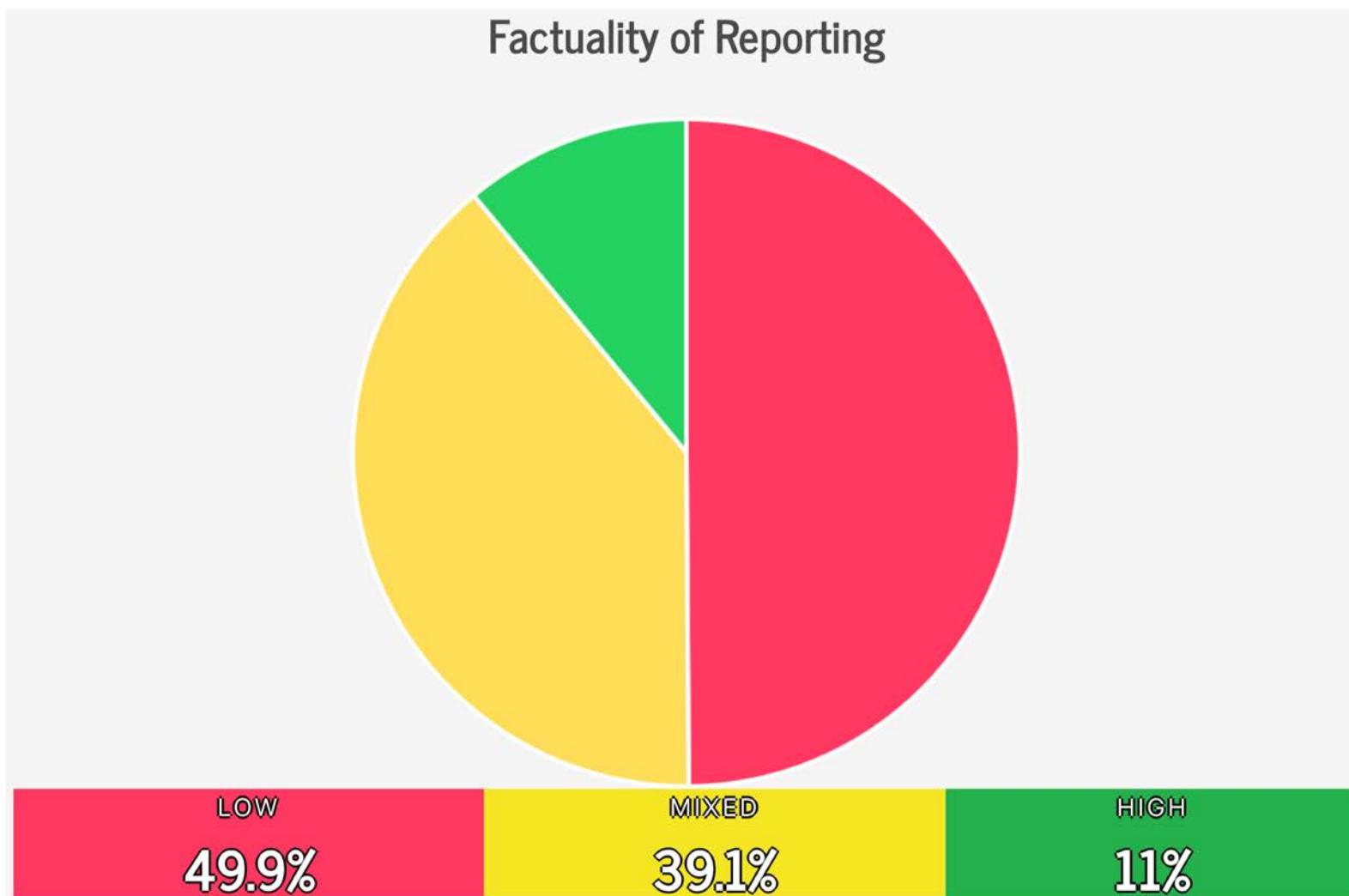


8



Waiting for search.spotxchange.com ...

# Our Analysis of the Previous Medium (in Tanbih)



# In Media Bias/Fact Check



Reasoning: **Extreme Right, Hate Group**

Notes: *FrontPage Magazine* is an online conservative political website, edited by David Horowitz and published by the *David Horowitz Freedom Center*, a non-profit organization in Los Angeles, California. This source has a pretty strong right wing bias in reporting that often is negative toward minorities and Islam. Frontpage Magazine is also listed on the *Islamophobia Network*. The Southern Poverty Law Center has this magazine labeled as an *anti-Muslim*. (10/7/2016) Updated (D. Van Zandt 100 7/19/2017)

# Propaganda



# Why Propaganda?

- “Expression **deliberately** designed to **influence** the opinions /actions of other individuals or groups with reference to predetermined ends.”

Institute for Propaganda Analysis

- “ · The rise of the Internet [...] has opened the **creation and dissemination of propaganda messages**, which were once the province of states and large institutions, to a **wide variety of individuals and groups**.”

( · Bolsover and Howard, Big  
Data 5(4)) 102

Weather: Sunny and warm, 75/62

SPORTS • FINAL

Monday, September 24, 2007

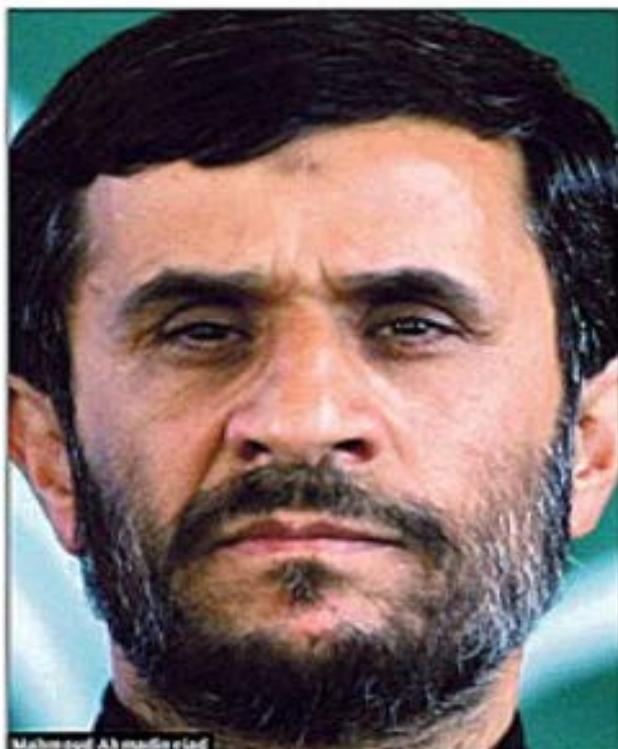
# DAILY NEWS

\$0.6

NEW YORK'S HOMETOWN NEWSPAPER

NYDailyNews.com

# THE EVIL HAS LANDED



Mahmoud Ahmadinejad

STORIES  
ON  
PAGES 4-7  
EDITORIAL  
PAGE 22

WOULD YOU VOTE FOR  
CLINTON AS PRESIDENT?

57%

SAY YES

WASHINGTON POST/NBC NEWS POLL — NOV 28-DEC 2, 2002



**Bandwagon**: "Attempting to persuade the target audience to join in and take the course of action because "everyone else is taking the same action".



*"We are in the middle of the sixth mass extinction, with more than 200 species getting extinct every day"*

Greta Thunberg



*"We are in the middle of the sixth mass extinction, with more than 200 species getting extinct every day"*

Greta Thunberg

Appeal to Fear

BLOG

## Qatar spending profusely on Neymar, not fighting terrorism

AUGUST 9, 2017

 Share on Facebook

 Share on Twitter

+



F

 Facebook



108

# Demo: Proppy

<http://proppy.qcri.org>

The screenshot shows the Proppy web application interface. At the top, there is a logo consisting of the word "PROPPY" in white letters inside a blue circular emblem with a grid pattern. Below the logo, the text "The propaganda analyzer" is displayed. On the left side, a vertical sidebar lists "List of the last 24 hours' events:" followed by seven news items. On the right side, there is a detailed view of the first news item, "Malaysian ex-PM Najib hit with 25 new charges over 1MDB scandal". This view includes the news title, location (Kuala Lumpur, Kuala Lumpur, Malaysia), date (2018-09-20), a summary of the content, and the source (www.aljazeera.com). Below this, another news item is shown: "Najib faces 25 charges linked to \$681m in 1MDB case | Bangkok Post: news", with its location (British Virgin Islands), date (2018-09-13), summary, and source (www.bangkokpost.com). A horizontal color scale at the top right indicates the "estimated amount of propagandistic content" from 0.0 (light blue) to 1.0 (dark blue).

List of the last 24 hours' events:

- Malaysian ex-PM Najib hit with 25 new charges over 1MDB scandal
- Air pressure error causes mass bleeding on India flight
- North Dakota man rescues animals from Hurricane Florence
- Japan eager to get in on rise of 'flying cars'
- Abbas to hold meeting with ministers, diplomats in New York
- Trump blames OPEC for rising oil prices, says U.S. 'will remember'
- New James Bond movie to be directed by Cary Joji Fukunaga

estimated amount of propagandistic content

**Malaysian ex-PM Najib hit with 25 new charges over 1MDB scandal**  
Kuala Lumpur, Kuala Lumpur, Malaysia - 2018-09-20

Malaysia's former Prime Minister Najib Razak has been hit with 25 new corruption charges linked to the 1MDB scandal. The new charges include four counts of abuse of power and 21 counts of money laundering over hundreds of millions of dollars of fund..

Source: [www.aljazeera.com](http://www.aljazeera.com)

**Najib faces 25 charges linked to \$681m in 1MDB case | Bangkok Post: news**  
British Virgin Islands --2018-09-13

Former Malaysian prime minister Najib Razak (centre) arrives at the High Court in Kuala Lumpur on Thursday. (EPA-EFE photo) KULA LUMPUR: Former Malaysian premier Najib Razak seeks trial for charges linked to \$681 million that appeared in his persona..

Source: [www.bangkokpost.com](http://www.bangkokpost.com)

Alberto Barrón-Cedeño, Giovanni Da San Martino, Israa Jaradat, Preslav Nakov:  
*Proppy: A System to Unmask Propaganda in Online News.* AAAI 2019: 9847-9848

reductio ad Hitlerum  
flag-waving  
minimisation  
exaggeration  
black-and-white fallacy  
appeal to prejudice

thought-terminating cliches  
whataboutism  
bandwagon  
causal oversimplification  
appeal to authority  
intentional vagueness  
cognitive dissonance  
name calling  
obfuscation  
loaded language

# Fine-Grained Propaganda Detection

- 1 Manchin says Democrats acted like babies at the SOTU  
2 Democrat West Virginia Sen. Joe Manchin says his colleagues' refusal to stand or applaud during President Donald Trump's State of the Union speech was disrespectful and a signal that
- Black-and-white Fallacy  
the party is more concerned with obstruction than it is with progress.
- 4 In a glaring sign of just how stupid and petty things have become in Washington these days, Manchin was invited on Fox News Tuesday morning to discuss how he was one of the only Democrats in the chamber for the State of the Union speech
- Exaggeration  
Loaded language  
not looking as though Trump killed his grandma.
- 6 As Manchin noted, many Democrats bolted as soon as Trump's speech ended in an apparent effort to signal
- Exaggeration  
they can't even stomach being in the same room as the president

## New Dataset

- 18 techniques
- 350k words
- 400 man hours
- 7.3k instances

---

## Technique • Snippet

---

loaded language • until forced to act by **a worldwide storm of outrage**.

name calling, labeling • dismissing the protesters as **lefties** and hugging Barros publicly  
repetition • Farrakhan repeatedly refers to Jews as **Satan**. He states to his audience [...] call them by  
their real name, '**Satan**'.

exaggeration, minimization • heal the situation of **extremely grave immoral behavior**  
doubt • **Can the same be said for the Obama Administration?**

appeal to fear/prejudice • **A dark, impenetrable and irreversible winter of persecution of the  
faithful by their own shepherds will fall.**

flag-waving • conflicted, and **his 17 Angry Democrats that are doing his dirty work are a disgrace to  
USA!** —Donald J. Trump

flag-waving • attempt (Mueller) **to stop the will of We the People!!!** It's time to jail Mueller  
causal oversimplification • he said **The people who talk about the "Jewish question" are gen-**  
**erally anti-Semites.** Somehow I don't think

causal oversimplification • will not be reversed, **which leaves no alternative as to why God  
judges and is judging America today**

slogans • **BUILD THE WALL!"** Trump tweeted.

appeal to authority • **Monsignor Jean-Franois Lantheaume, who served as first Counsellor of  
the Nunciature in Washington, confirmed that "Vigan said the truth. Thats all"**

black-and-white fallacy • Francis said these words: **Everyone is guilty for the good he could have  
done and did not do ... If we do not oppose evil, we tacitly feed it.**

thought-terminating cliches • **I do not really see any problems there.** Marx is the President  
whataboutism • President Trump —**who himself avoided national military service in the 1960's— keeps**  
beating the war drums over North Korea

reductio ad hitlerum • "Vichy journalism," a term which now fits so much of the mainstream media.  
**It collaborates in the same way that the Vichy government in France collaborated with the Nazis.**

red herring • It describes the tsunami of vindictive personal abuse that has been heaped upon Julian from  
well-known journalists, many claiming liberal credentials. The Guardian, **which used to consider itself the  
most enlightened newspaper in the country**, has probably been the worst.

bandwagon • He tweeted, "**EU no longer considers #Hamas a terrorist group. Time for US to do same."**  
obfusc., int. vagueness, confusion • **The cardinal's office maintains that rather than saying "yes," there is  
a possibility of liturgical "blessing" of gay unions, he answered the question in a more subtle way without  
giving an explicit "yes."**

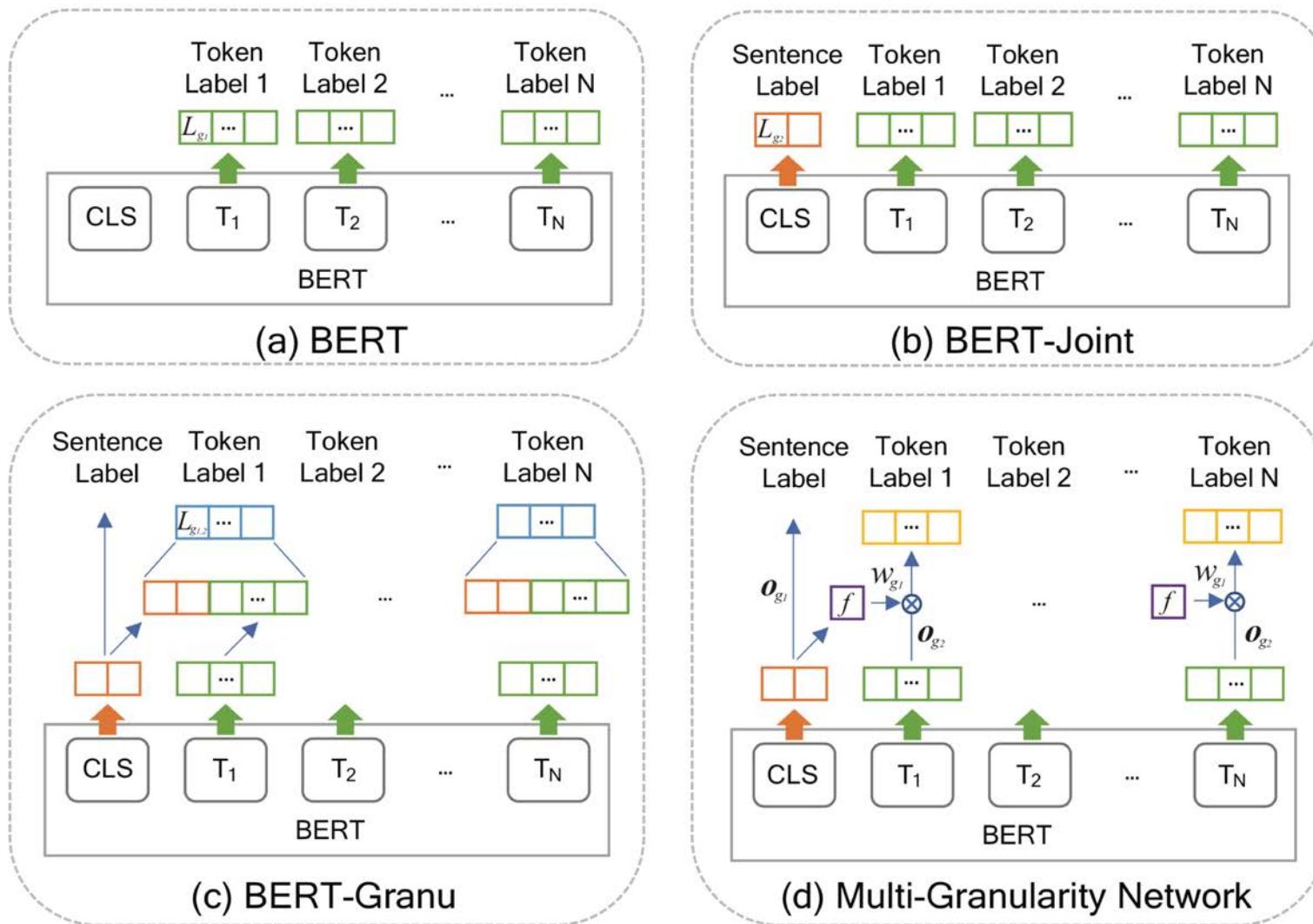
straw man • "Take it seriously, but with a large grain of salt." **Which is just Allen's more nuanced way of  
saying: "Don't believe it."**

---

# Propagandistic News Outlets and Number of Articles

News Outlet	#	News Outlet	#
Freedom Outpost	133	The Remnant Magazine	14
Frontpage Magazine	56	Breaking911	11
shtfplan.com	55	truthuncensored.net	8
Lew Rockwell	26	The Washington Standard	6
vdare.com	20	www.unz.com	5
remnantnewspaper.com	19	www.clashdaily.com	1
Personal Liberty	18		

<b>Propaganda Technique</b>	<b>inst</b>	<b>avg. length</b>
loaded language	2,547	23.70 ± 25.30
name calling, labeling	1,294	26.10 ± 19.88
repetition	767	16.90 ± 18.92
exaggeration, minimization	571	45.36 ± 35.55
doubt	562	123.21 ± 97.65
appeal to fear/prejudice	367	93.56 ± 74.59
flag-waving	330	61.88 ± 68.61
causal oversimplification	233	121.03 ± 71.66
slogans	172	25.30 ± 13.49
appeal to authority	169	131.23 ± 123.2
black-and-white fallacy	134	98.42 ± 73.66
thought-terminating cliches	95	34.85 ± 29.28
whataboutism	76	120.93 ± 69.62
reductio ad hitlerum	66	94.58 ± 64.16
red herring	48	63.79 ± 61.63
bandwagon	17	100.29 ± 97.05
obfusc., int. vagueness, confusion	17	107.88 ± 86.74
straw man	15	79.13 ± 50.72
<b>all</b>	<b>7,485</b>	<b>46.99 ± 61.45</b>



Giovanni Da San Martino, Seunghak Yu, Alberto Barrón-Cedeño, Rostislav Petrov, Preslav Nakov  
*Fine-Grained Analysis of Propaganda in News Articles*. EMNLP 2019

## Results: Fragment-Level

Model	Spans			Full Task		
	P	R	F <sub>1</sub>	P	R	F <sub>1</sub>
BERT	39.57	36.42	37.90	21.48	<b>21.39</b>	21.39
Joint	39.26	35.48	37.25	20.11	19.74	19.92
Granu	43.08	33.98	37.93	23.85	20.14	21.80
Multi-Granularity						
ReLU	43.29	34.74	38.28	23.98	20.33	21.82
Sigmoid	<b>44.12</b>	<b>35.01</b>	<b>38.98</b>	<b>24.42</b>	21.05	<b>22.58</b>

## Results: Sentence-Level

Model	Precision	Recall	F1
All-Propaganda	23.92	1.00	38.61
BERT	<b>63.20</b>	53.16	57.74
BERT-Granu	62.80	55.24	58.76
BERT-Joint	62.84	55.46	58.91
MGN Sigmoid	62.27	59.56	60.71
MGN ReLU	60.41	<b>61.58</b>	<b>60.98</b>



# HACK THE NEWS DATATHON

LET'S HACK NEWS MANIPULATION!

INTERNATIONAL DATA SCIENCE HACKATHON

21-29 January 2019

WHY? · PARTICIPATE · HOW IT WAS BORN · THE CASE · THE JURY · LOCAL HOSTS · COMMUNITY · SUPPORTERS · AWARD

LEARN MORE

Read the Story >

**Hack The News Datathon (January 2019): 250 participants from 50 countries**

[Passcode](#)[Team Page](#)<https://propaganda.qcri.org/nlp4if-shared-task/>

# SHARED TASK ON FINE-GRAINED PROPAGANDA DETECTION @NLP4IF 2019

# SemEval-2020

International Workshop on Semantic Evaluation

Sponsored by SIGLEX

## Tasks

<http://alt.qcri.org/semeval2020/index.php?id=tasks>

We are pleased to announce the following tasks in SemEval-2020.

Task 11: Detection of Propaganda Techniques in News Articles

# **AI for Regulatory Practice: Application to Media**



# Media-Telecom Catalyst Programme





TEC  
Mahindra

AP

12.20.18.12.2020 analysis\_0001

Earlier Seoul, South Korea

STATE OF THE UNION, CNN

CNN SOTU

LIVE

TRUMP AND KIM HELD PRIVATE TALKS FOR NEARLY AN HOUR

CNN

TRUMP & EXECUTIVE ORDER BANNING U.S. FIRMS FROM PURCHASING CRITICAL EQUIPMENT FROM CHINA

Metadata Contextual Metadata Regulatory Compliance Report

Sentiments

- Yellow: Neutral
- Green: Positive
- Red: Negative

Bias

Claims Worth

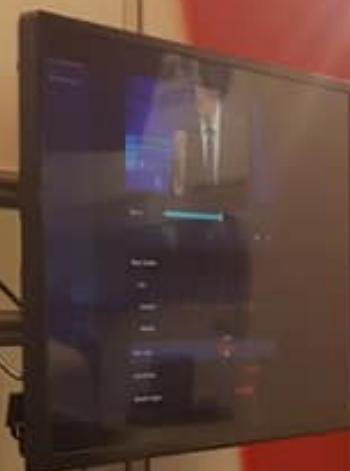
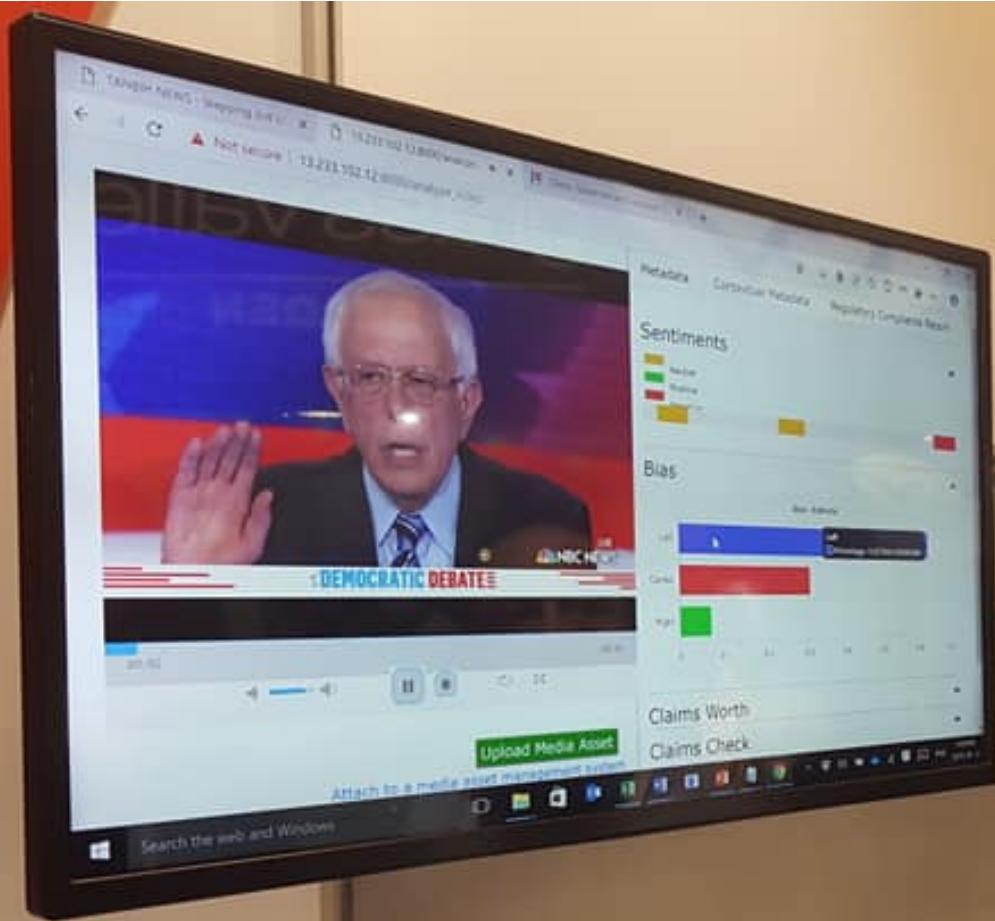
Claims Check

- "The Obama administration was begging for a meeting" with Kim Jong Un. X
- "The governor having a meeting ... isn't covered by the open meetings act." ✓

Upload Media Asset

Attach to a media asset management system

Search for news and videos



**BREAKING NEWS**

JUAN G

Smart Tourism Experience

tmforum

RTE AR  
2023



← Tanbih v 0.5.0

Export ▾



Info



Tags



Search



default ▾

POST /article/propaganda

GET /article/propaganda

POST /article/propaganda/sentences

GET /article/propaganda/sentences

POST /article/bias

GET /article/bias

POST /article/checkworthiness

GET /article/checkworthiness

POST /claim/check

GET /claim/check

```
1 # Example YAML to get you started quickly.
2 # Be aware that YAML has indentation based copying.
3 # Code completion support is available so start typing for
4 # available options.
5
6 # This is your document metadata
7 info:
8   version: "0.5.0"
9   title: Tanbih API
10  description: |
11    Tanbih API allows user to estimate propaganda score on
12    both article level
13    and sentences level and to predict bias on given piece
14    of text. With current
15    version, the article level propaganda estimation is
16    implemented.
17    Requests for estimation is done in a asynchronical way.
18    Client will POST
19    a request for estimation, when successful, get a key in
20    return; then client
21    will use this key in query parameter to pull the
22    estimation result from
23    server.
24
25 host: webapi.tanbih.org
26
27 schemes:
28   - http
```

Aa



PUBLISHED



0.5.0

[ Base URL: webapi.tanbih.org ]

Tanbih API allows user to estimate propaganda score on both article level and sentences level and to predict bias on given piece of text. With current version, the article level propaganda estimation is implemented. Requests for estimation is done in a asynchronical way. Client will POST a request for estimation, when successful, get a key in return; then client will use this key in query parameter to pull the estimation result from server.

Schemes

HTTP

default ▾

POST /article/propaganda



(en) to join them to call market had not been globally certified and reason by company.

/ office

# QCRI team honoured for innovation at tech expo

TRIBUNE NEWS NETWORK

DOHA

A team of scientists from Qatar Computing Research Institute (QCRI) at Hamad Bin Khalifa University have received recognition for their contribution to a media-telecom catalyst project on AI indexing for regulatory compliance that uses artificial intelligence to identify, index and measure political balance.

The project aims to detect false claims and to enhance the accuracy of video content.

Developed in partnership with Al Jazeera, Associated Press, RTE Ireland, Tech Mahindra, V-Nova and Metaliquid, the project seeks to support broadcasters and content owners with their regulatory measures and compliance processes.

QCRI worked on the com-



A team of scientists from Qatar Computing in Amsterdam.

pliance use of the project, developing the fact checking, news coverage, political bias detection and graphic content detection mechanism.

The team of QCRI scientists was honoured with an award at IBC2019, a leading media, entertainment and technology

conference held in Amsterdam in September.

The global gathering saw more than 50,000 industry experts and researchers from 150 countries come together to showcase their latest innovations and participate in a number of topical discussions.



<http://www.qatartribune.com/news-details/id/173546/qcri-team-honoured-for-innovation-at-tech-expo>

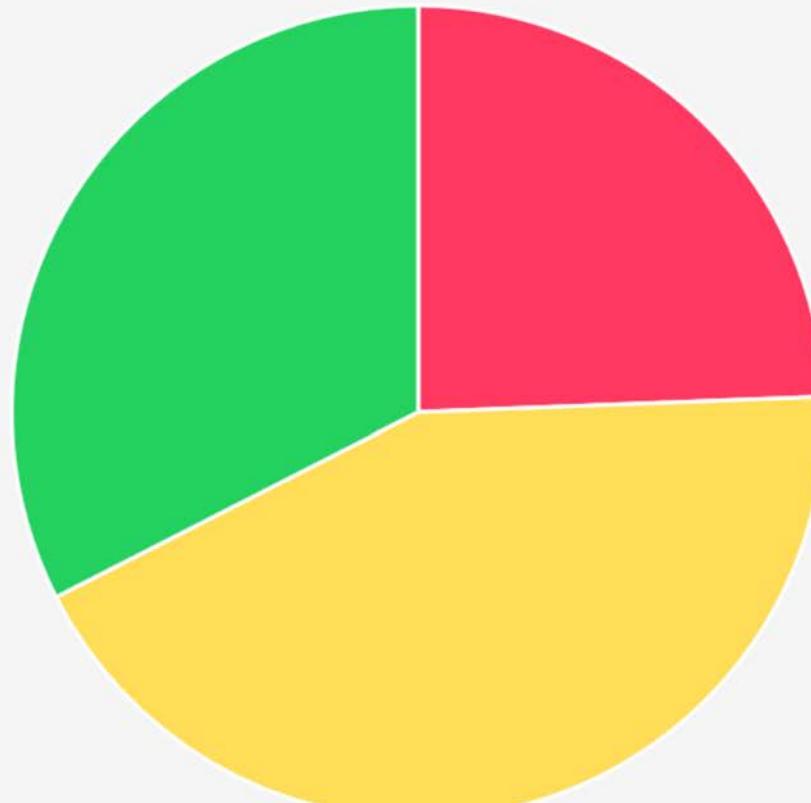
# Demo

Try Tanbih: <http://www.tanbih.org>



<http://www.tanbih.org>

Factuality of Reporting

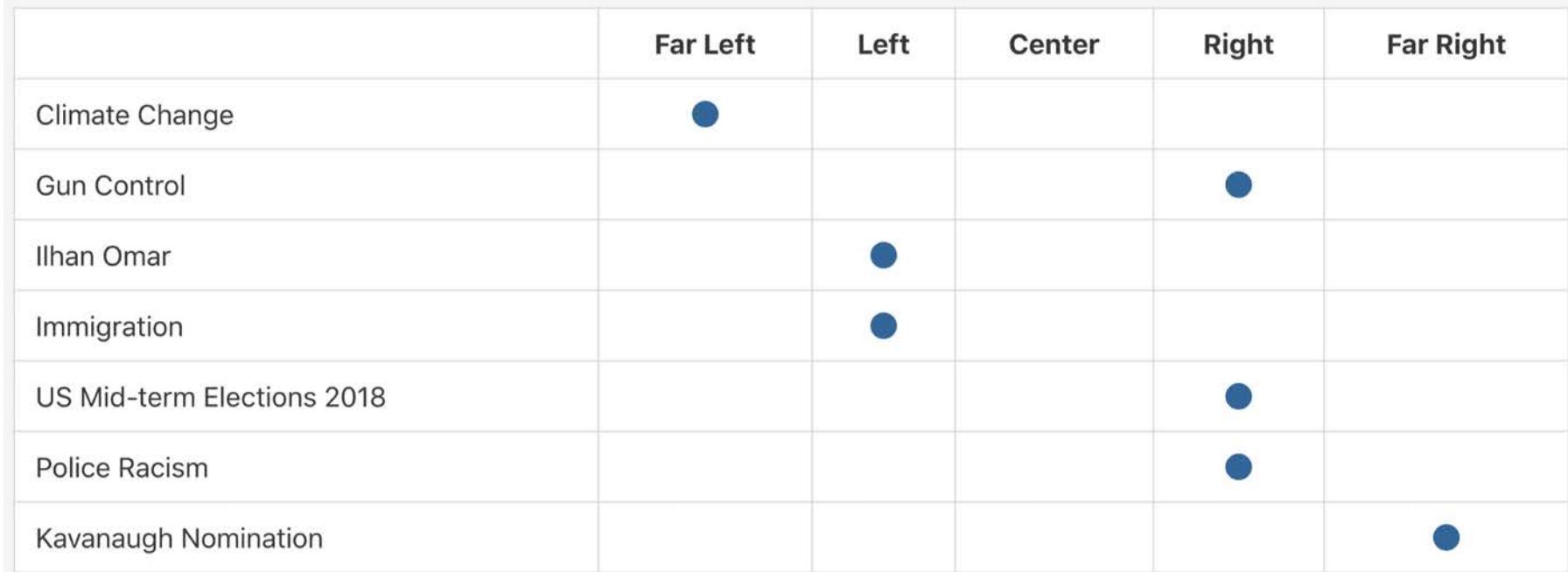


Level	Percentage
LOW	24.4%
MIXED	43.1%
HIGH	32.5%



<http://www.tanbih.org>

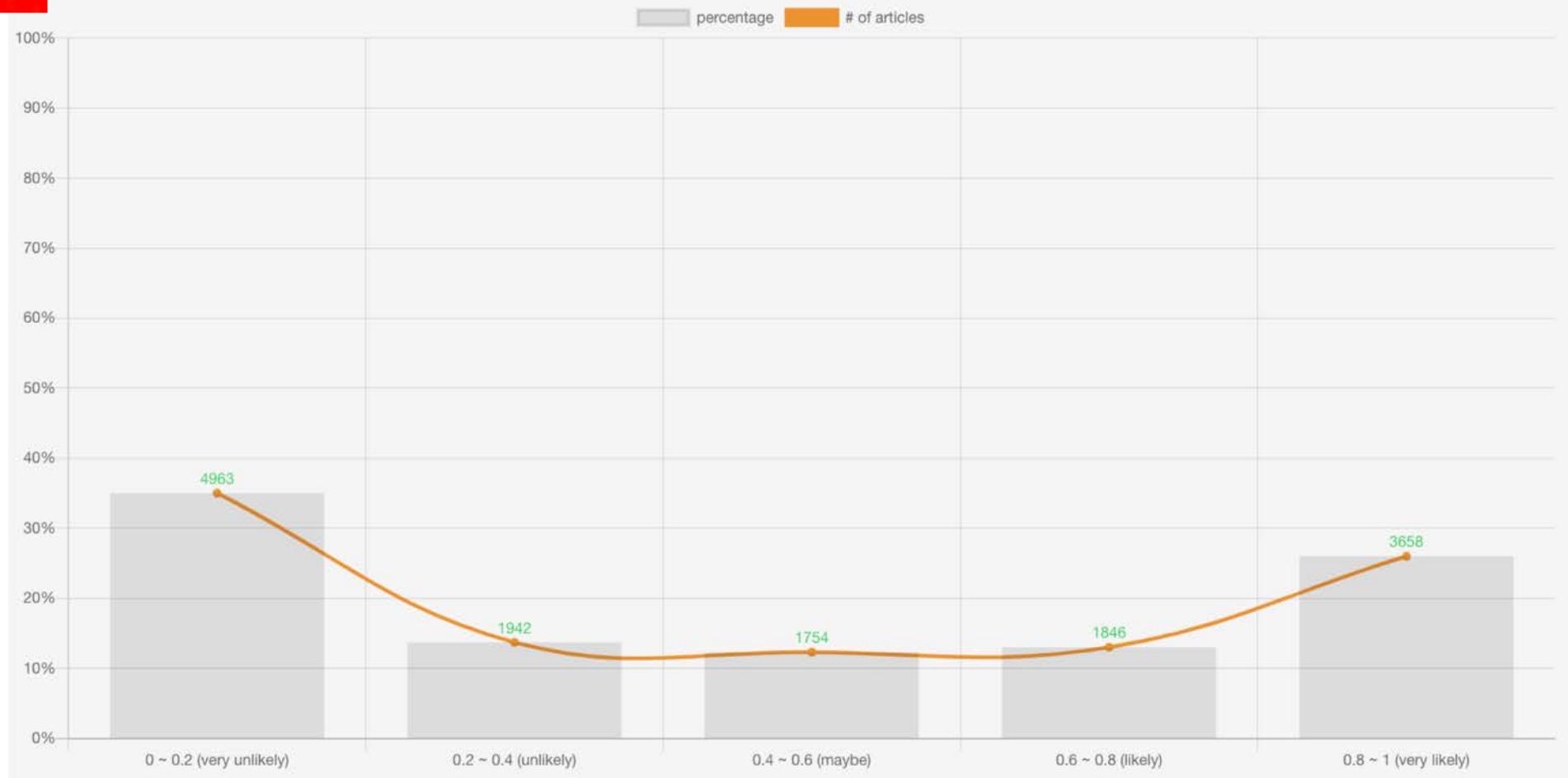
#### Twitter User Based Bias Prediction





<http://www.tanbih.org>

### Propagandistic Content Distribution



<http://www.tanbih.org>

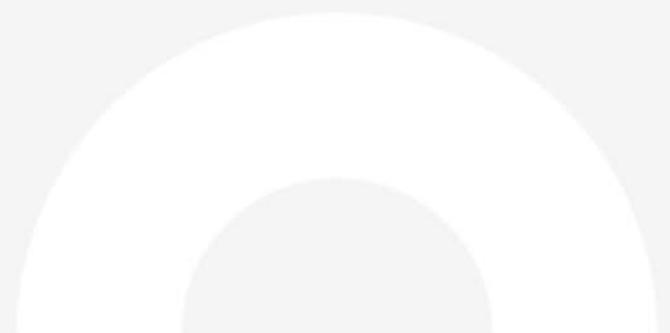


Centrality



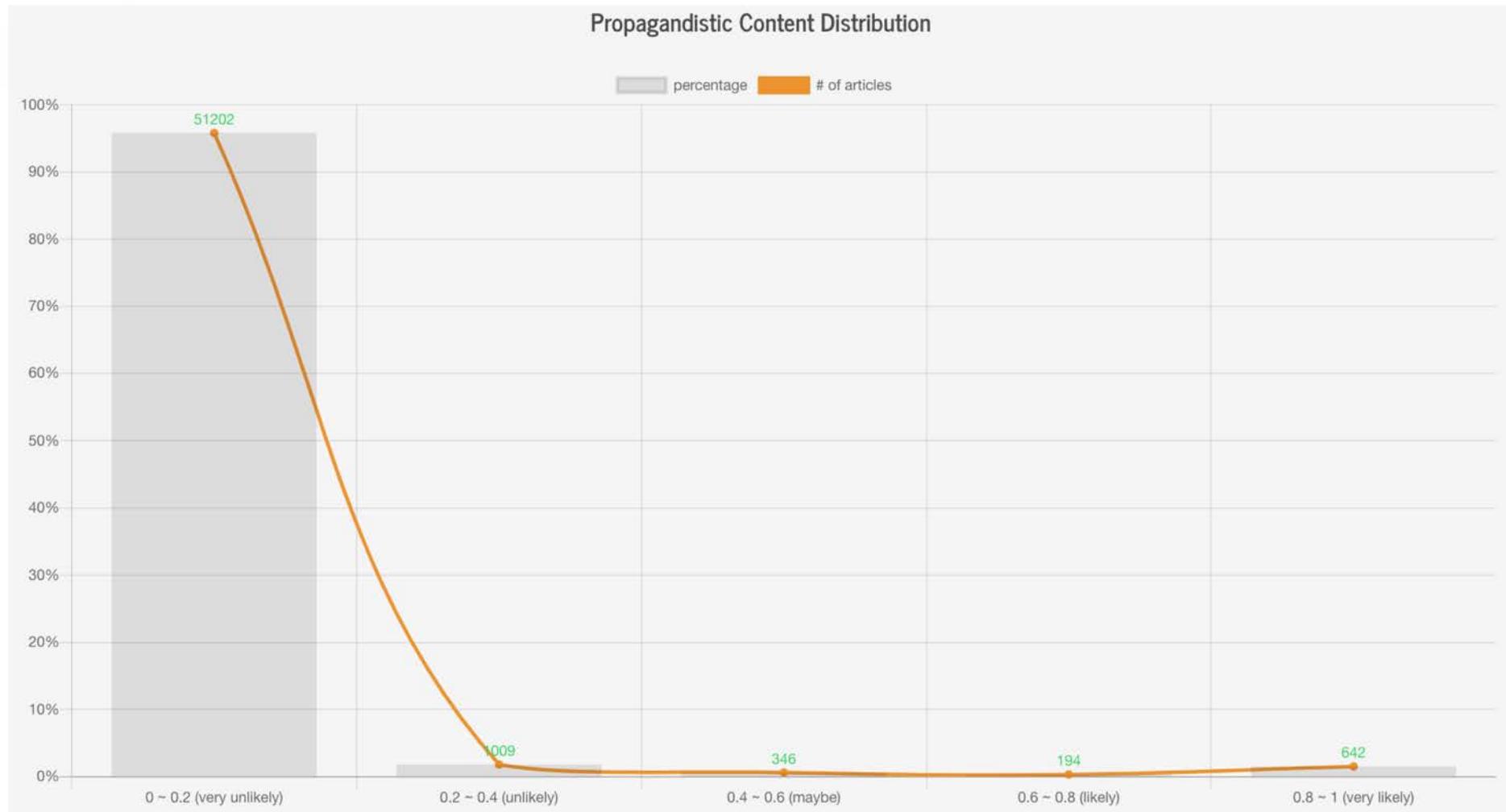
57%

Hyper-Partisanship



0%

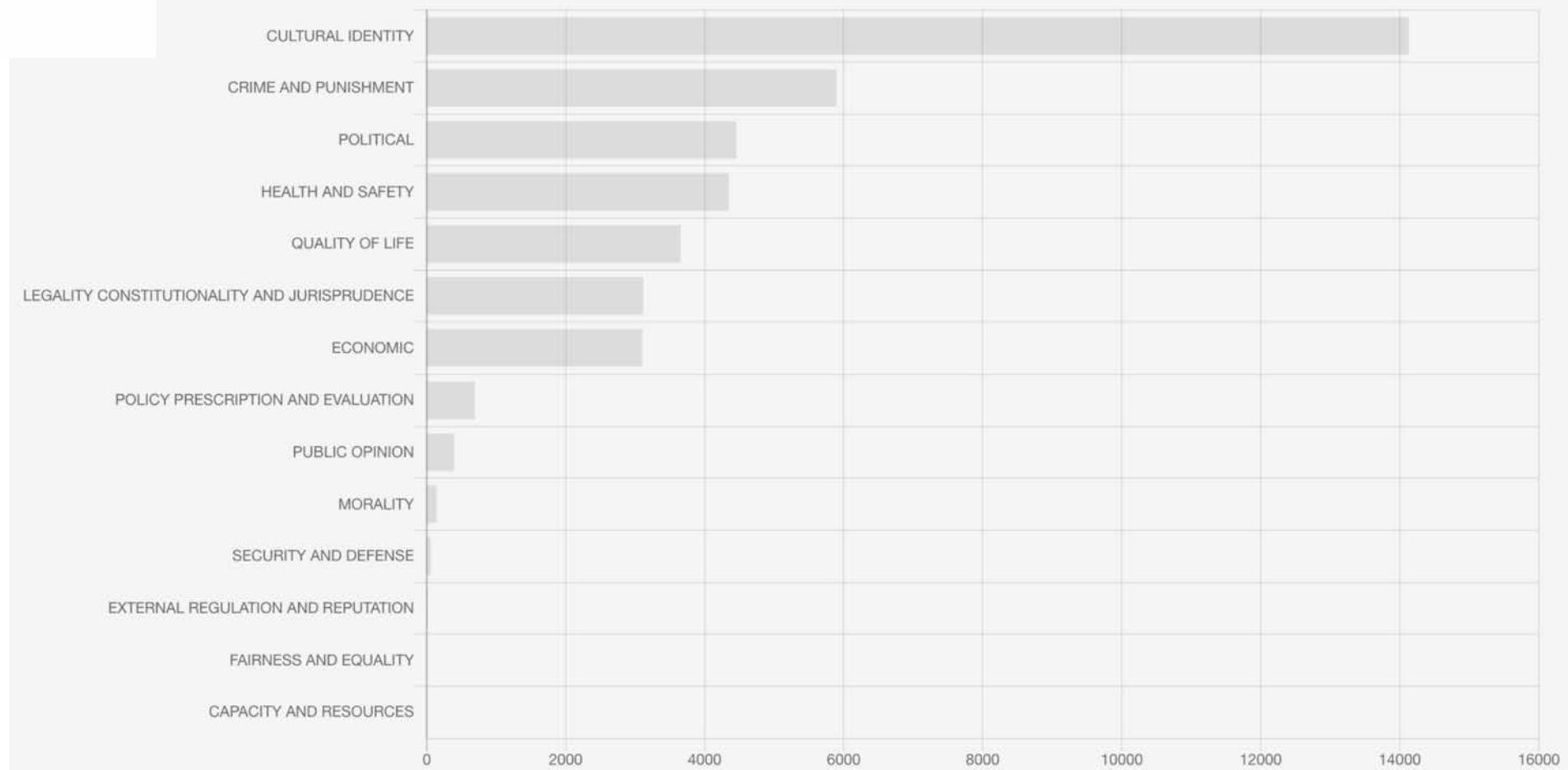
<http://www.tanbih.org>



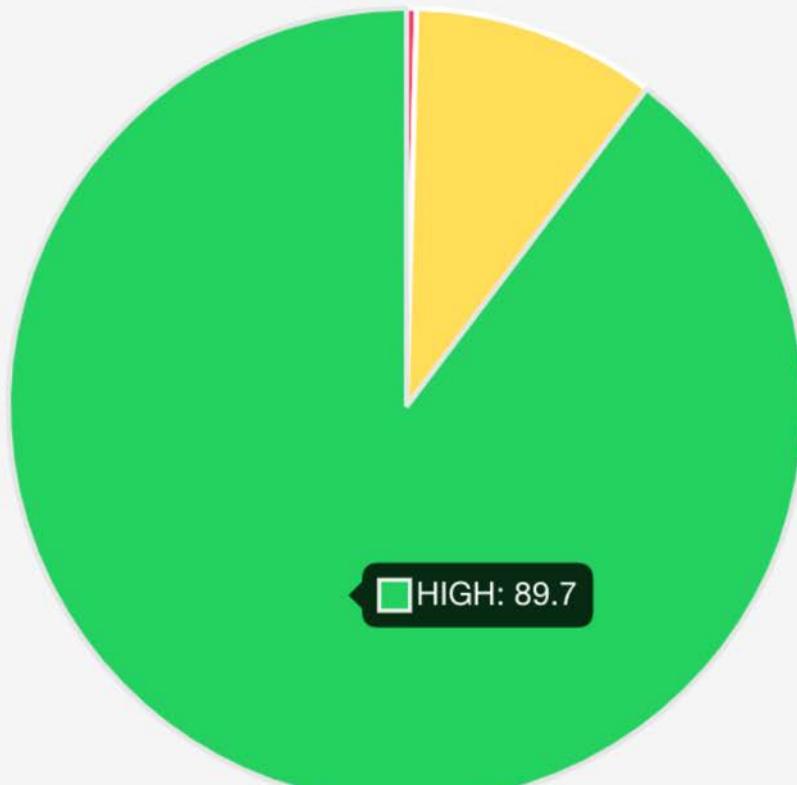
<http://www.tanbih.org>



Distribution of General Frame of Reporting



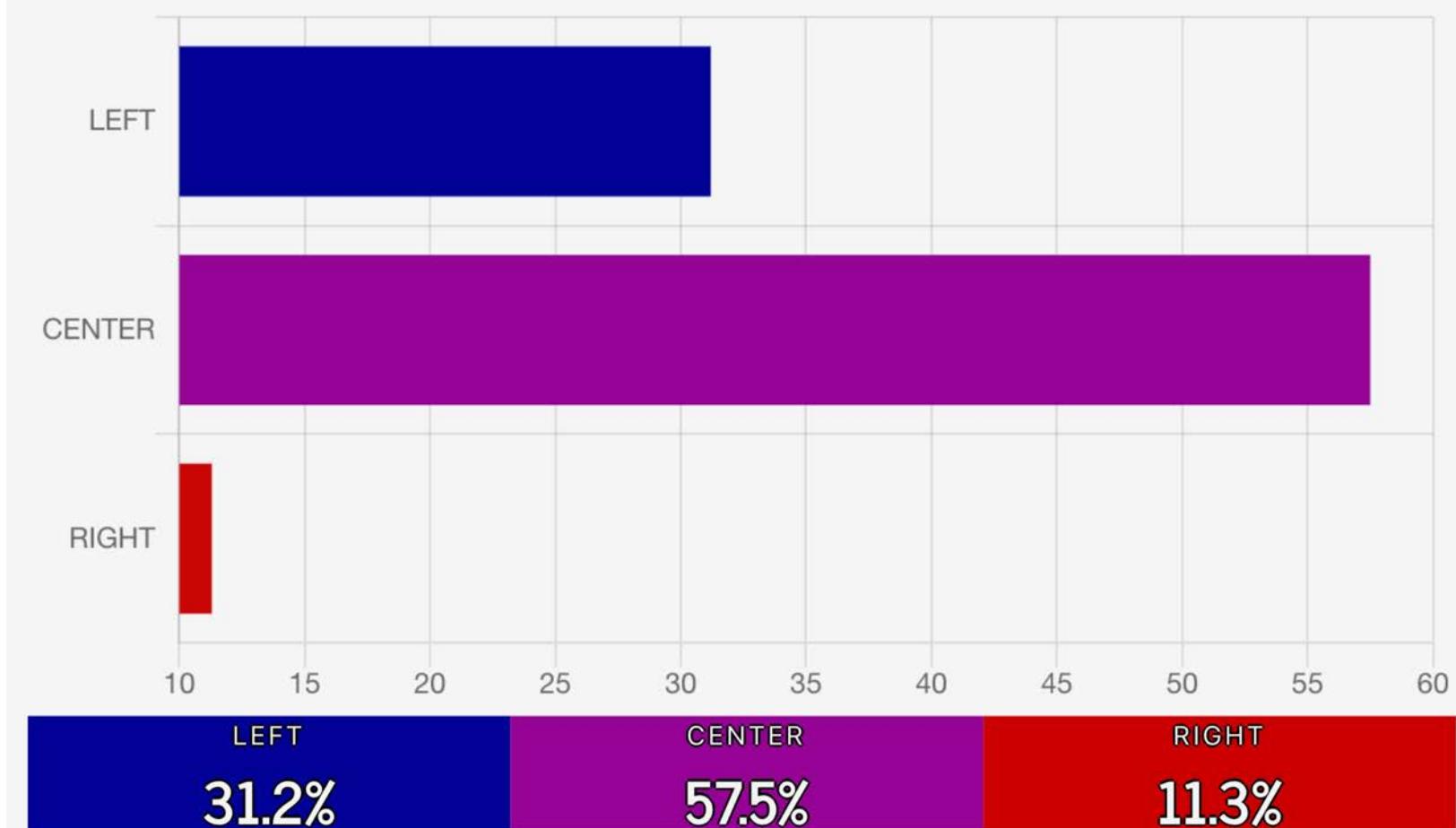
### Factuality of Reporting

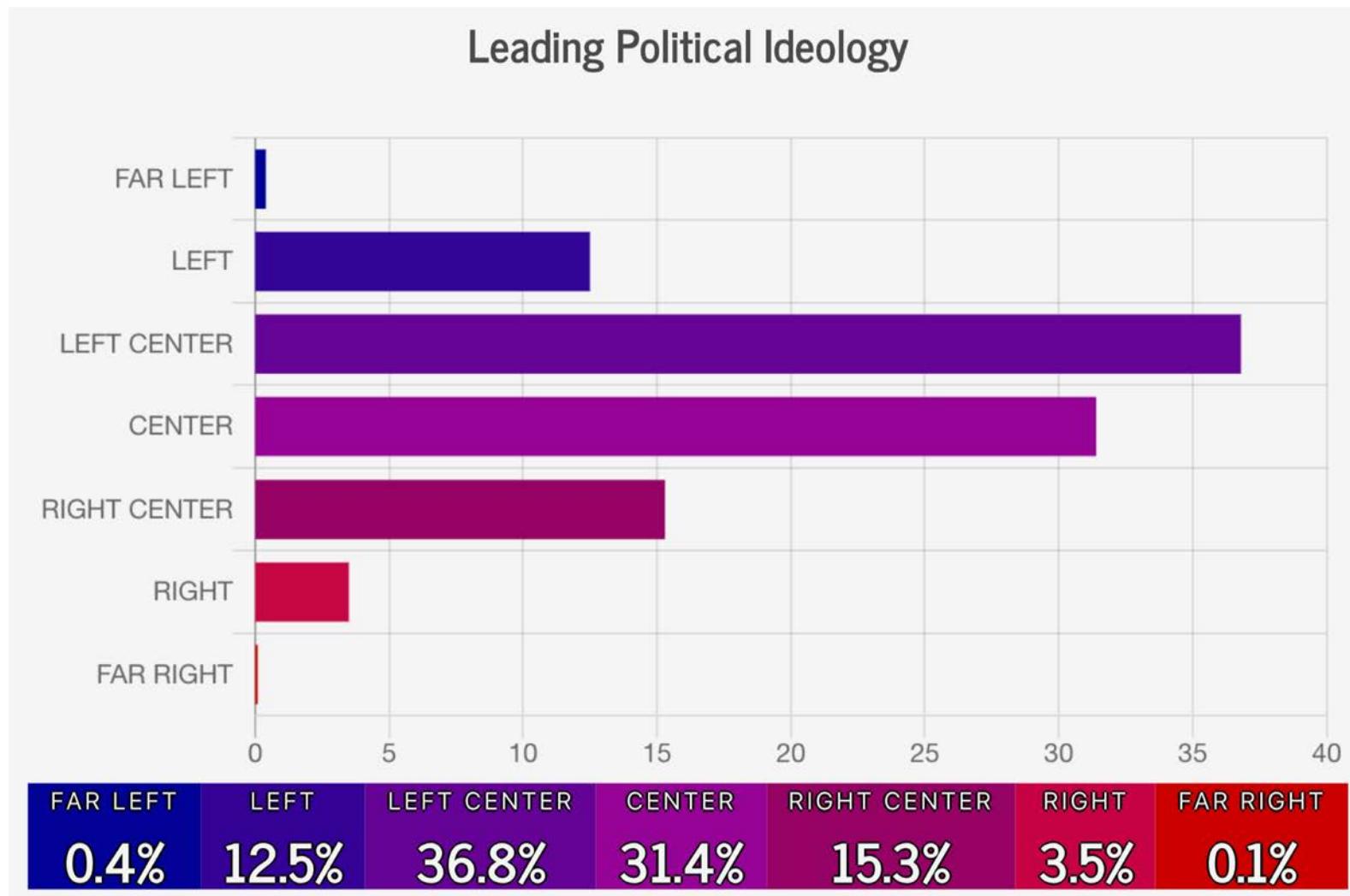


<http://www.tanbih.org>



### Leading Political Ideology (3-Point Scale)

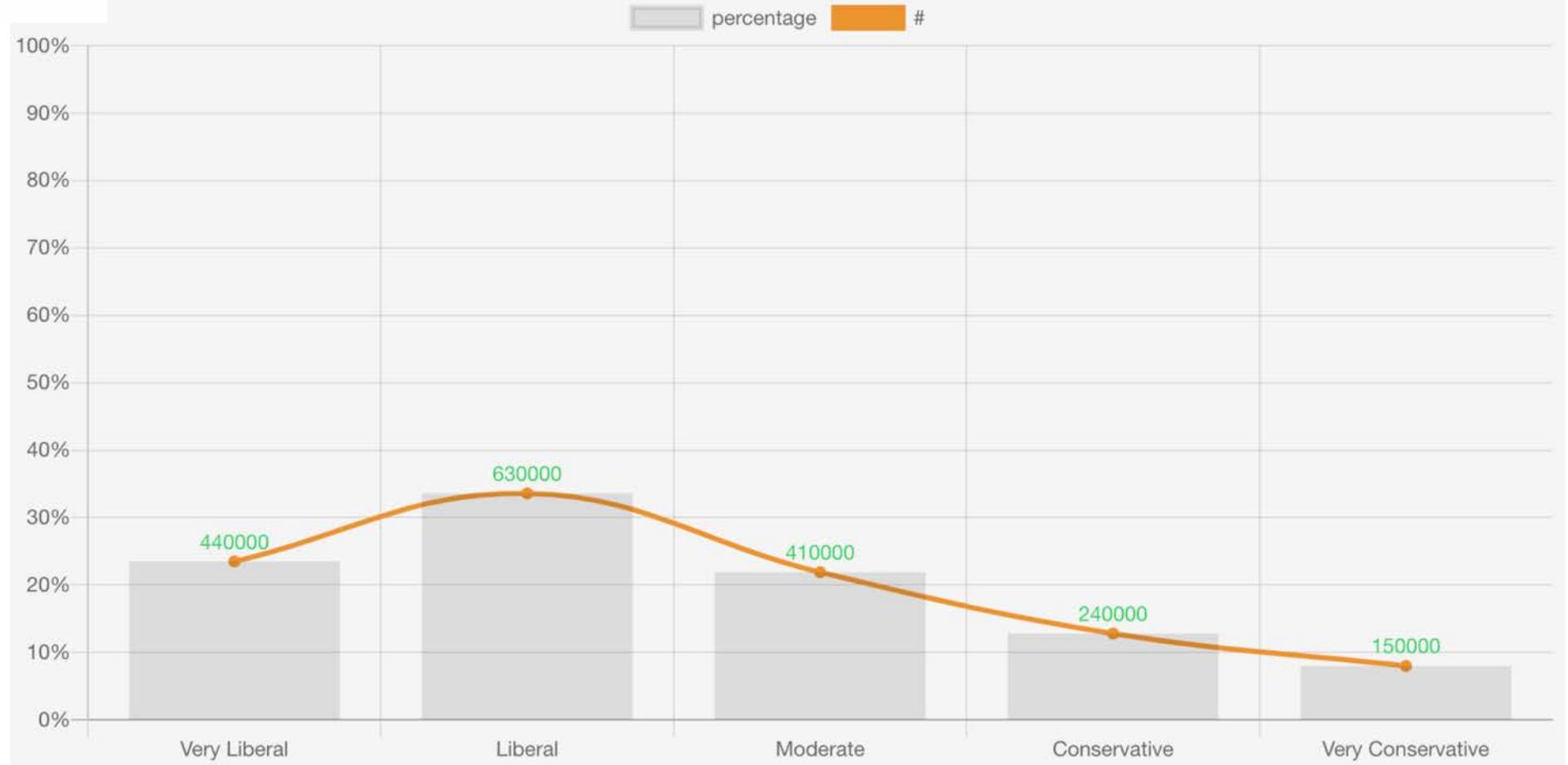




<http://www.tanbih.org>



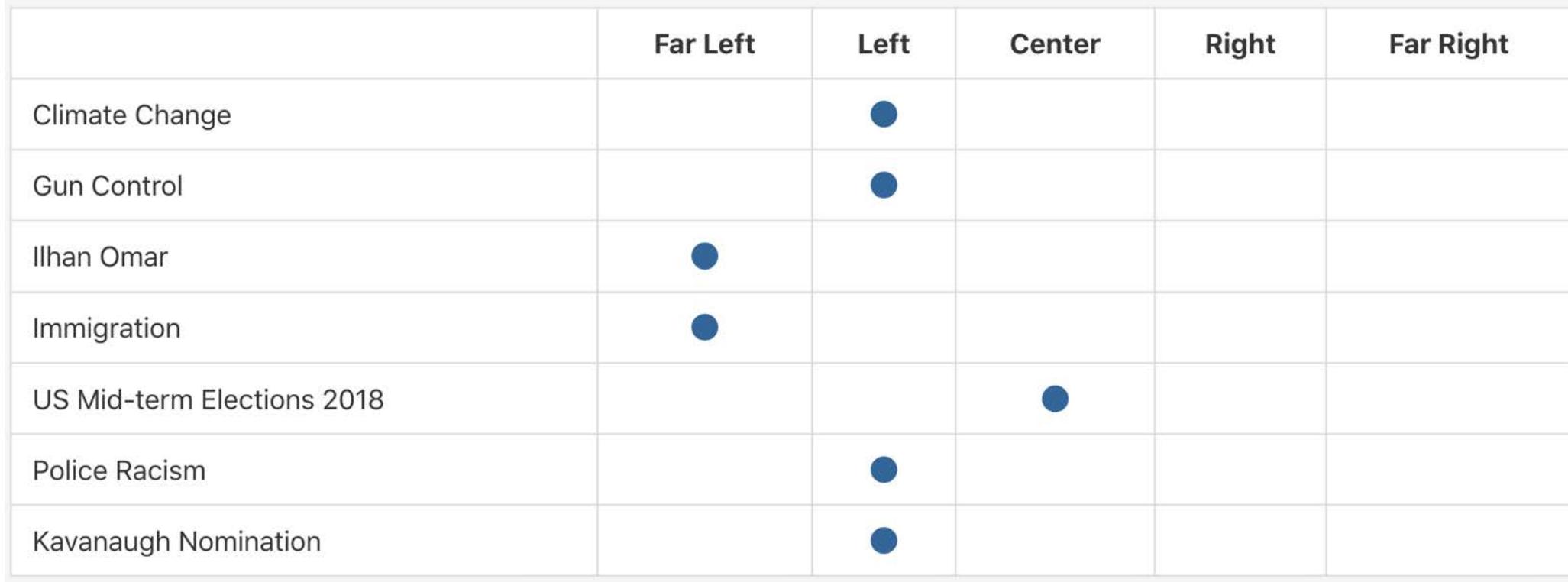
### Audience Reach



<http://www.tanbih.org>



### Twitter User Based Bias Prediction



## Climate Change 69% PRO

### PRO Claims

*The government should increase environmental regulations to prevent climate change (94)*

**78%(74)**

AGREE

**22%(20)**

DISAGREE

### AGAINST Claims

*Climate change is a flat-out hoax (292)*

**3%**

AGREE

**97%(281)**

DISAGREE



Try Tanbih: <http://www.tanbih.org>

*This work is part of the Tanbih project, developed in collaboration between QCRI and MIT-CSAIL, which aims to limit the effect of “fake news”, propaganda, and media bias by making users aware of what they are reading.*

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