Technology as Enabler of Fake News and a Potential Tool to Combat it

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news circulation process has changed
  • in the past it was edited by professionals
  • now it is edited by everyone
“fake news” circulates largely due to social networks
  • 30-40%
technically it is possible to interfere with circulation of “fake news”
  • but cannot be stopped entirely

conclusion
  • yes we can but should we
The news process
Travel is to make a journey or to have an adventure to somewhere by bicycle, train, airplane, car, motorcycle, or boat. It could be an exploration to somewhere new planned or unplanned to meet new people, new things, and new places. There are different types of adventure waiting for you to explore.

There are lots of places to explore. Places could be urban or suburban. Some people love to be with nature to free their minds and refresh their souls, but some like to be in the city. You will get lots of benefits such as exploring new culture.
Quality control of news
Publication of news
Amplification of news
Consumption of news
The news process schematically
Traditional news process

- create
- create
- create
- professionals

- edit
- publish
- amplify

- reasonable, responsible, liable publisher
- control
- editorial policy
- self censorship
- state censorship

- consume
- consume
- consume
- consume
- consume
- consume
Enters the Internet

- anyone can publish
- anyone can amplify
- anyone can edit
- editors are gone
- no trashcan

source: wikipedia
Internet-age news process

amateurs and professionals

create
create
create

create

edit

publish

amplify

consume
consume
consume
consume
consume
consume
consume

self censorship
Technology for “fake news” dissemination
Social media is main driver for “fake news”

- 10% of readers of top news come via social media
- 40% of readers of “fake news” come via social media
Fake and real news have about the same engagement on social media

- this is 10% for real news
- but 40% for “fake news”
In Europe “real” beats “fake” 6:1, in US it is 1:1
“Fake news” (orange) audience is 10% of real news (green)
For „fake news“ main source is Facebook

Average “Pizzagate” Shares By Network
Including Both Fake And Real News Articles

October 30, 2016 - November 21, 2016
On Facebook users see 10% of what they „subscribe” to

- Facebook decides which 10%
- Facebook chose to remove news from feed
  - hurting 10% of real news traffic
  - hurting 40% of fake news traffic
- Both unhappy!
How they choose the 10% is key issue for stopping “fake news”!

- Facebook’s goal: “keep audience at site and engaged”
- Algorithm is opaque
- Algorithm is changing
- Algorithm is unfair?

source: The Western Journal
Bots spread fake news on Twitter. And real news.

- “We find evidence that social bots play a disproportionate role in spreading and repeating misinformation.” (source).

- “Contrary to conventional wisdom, robots accelerated the spread of true and false news at the same rate, implying that false news spreads more than the truth because humans, not robots, are more likely to spread it” (source)

Propagation of fake news: Nodes and links represent Twitter accounts and retweets of the claim, respectively. Node size indicates account influence, measured by the number of times an account is retweeted. Node color represents bot score, from blue (likely human) to red (likely bot).
Can we stop “fake news”? 
Yes we can!

- with author
- with publisher
- with platform
- with amplifier
- with reader
Stopping authors to publish “fake news”

- demonetize
  - deny advertising at fake news sites
- threaten prison
  - e.g. Polish anti-holocaust law
- lock them up
  - e.g. Turkey
Stopping “fake news” when published

- deny hosting
- deny listing in DNS directory
- block internet traffic to “fake news” site
Stopping fake news at platforms

- public platforms
  - Facebook, Google, Twitter, Baidu ...
  - label, augment, hide or remove “fake news”

- private messaging platforms
  - Viber, WeChat, Snapchat
  - listen to private conversations?!

- needs collaboration of platforms
Label „fake news“ on Facebook
Label "fake news" on Google
Label “fake news” on Twitter browser
Hide “fake news” by downranking – pushing down on search results

Facebook now flags and down-ranks fake news with help from outside fact checkers

Russia says Google down-ranking Sputnik, RT would be censorship

Snopes, FactCheck.org, PolitiFact, ABC News, and AP will help Facebook make good on four of the six promises Mark Zuckerberg made about fighting fake news without it becoming “the arbiter of truth.” It will make fake news posts less visible, append warnings from fact checkers to fake news in the feed, make reporting hoaxes easier and disrupt the financial incentives of fake news spammers.
Augment “fake news” with links to real news, warn before sharing
Remove “fake news” - deplatform
Stop bots!

What is a verified account?
To prevent identity confusion, Twitter is experimenting (beta testing) with a 'Verified Account' feature. We're working to establish authenticity with people who deal with impersonation or identity confusion on a regular basis. Accounts with a ✅ are the real thing!
Stopping “fake news” in private chat, email – the next frontier

- What’s Up
- Facebook Chat
- Snapchat
- Gmail
- Signal
- Telegram
- Viber

- can be done, but!?
Key element: how to identify “fake news”? 
Fake news can be identified by humans, machines or combination

- **Human**
  - human work by fact checkers
  - fact-checking industry appearing, looking for business model

- **Human-machine teamwork**
  - machine identifies potentially fake stories
  - double-checked by human

- **Machine only**
  - artificial intelligence
Two strategies for automatic identification of “fake news”

- From content
  - facts
  - style
- From social
  - stance
  - propagation

Content analysis is hard because ...

- ... needs to understand content
  - few news pieces are blatantly false
- style?
  - authors will adapt

*POLITICAL LANGUAGE is designed to make lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind.*

George Orwell
Artificial Intelligence can help. But “Computer did it” is a fallacy.
New source is an easy identifier of “fake news”

- what site is the origin of news
- shortlist of “fake news” sites
Social context tells a lot about trustworthiness of news

- “influencers”
- propagation patterns
- deployment of bots
- need for speed

Propagation of Fake climate change story
Stop at consumption
Media literate user is the last and best line of defense

Figure 5: Percent of US Adult Population that Recall Seeing or Believed Election News

people remember and believe “fake news” about as much as placebo news (non existent news)

“Available evidence suggests that for now the influence of fake news is limited”.

Conclusions
Yes we can. But may we?

- gatekeepers are gone
  - only guerrilla war on fake news is possible
- technology to disturb circulation of fake news exists
  - most efficient if platforms cooperate
  - some approaches are clearly interfering with free speech
- users seem to be quite capable at identifying fake news
  - to early to blame election results on fake news
The End

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