



SMART CITIES: RISE OF FALSE INFORMATION

Smart Cities & Automation

Smart cities represent the next stage in automation in our critical infrastructures. Due to the low cost of Internet-of-Things devices, city operators can now install sensors to monitor key municipal infrastructures at a granular level and adjust resources accordingly.

For example, earlier this year, a police officer in South Korea coordinated with the city traffic management system to adjust traffic light signals for a car carrying a critically injured passenger. Although the route to the hospital typically takes one hour due to traffic congestion, the car arrived at the hospital in 15 minutes, which minimized additional health complications for the injured passenger.

Helpful Resources

이채연 [Chae-yun Lee], 1 시간 거리를 15 분 만에...이주노동자 구한 '파란불'
(2021.04.01/뉴스데스크/MBC) [A one-hour journey in 15 minutes . . . the “green light” that saved a foreign worker], MBC NEWS (Apr. 1, 2021),
https://imnews.imbc.com/replay/2021/nwdesk/article/6136551_34936.html.

Misinformation & Disinformation

Automation also occurs in information systems in general, including within social media platforms on the internet. Although automation can bring unprecedented efficiencies within systems, automation could be purposed for facilitating disorder in our society. One such way is the spread of false information.

Misinformation refers to false information that generally spreads on its own, without any malicious intent. Disinformation, on the other hand, is false information that is spread deliberately and often as a form of propaganda. Disseminators of disinformation may be motivated by any number of factors.

Fake news originally referred to both disinformation and misinformation, which was spreading mainly through social media that was untrue. However, President Trump hijacked the term to describe critical media coverage, and the term no longer has a true definition.

Micro Political Targeting via Facebook & Social Media Networks

Social media is a potent tool for spreading false information. An MIT study found that people are drawn to information that is novel or unusual. Fake news is simply more interesting than real news much of the time.

The algorithms on most of these platforms are designed to give you more of the content you “like.” This makes a lot of sense for basketball fans or cat lovers. If you like basketball-related content, the algorithm will show you more NBA highlights or news. Likewise, if you engage with cat videos, that is what the platform will show you. But the problem is when this algorithm is applied to political content, which is what can send users down the so-called “rabbit hole” or into an “echo chamber.”

As a result, social media is making us more polarized. Additionally, this automation in social media gave an uneven advantage to one political spectrum over the other. For example, one study found that it cost fifty percent more to get a conservative voter to see content from former Democratic presidential candidate Bernie Sanders than content from the Trump campaign because it would have to be “promoted” more.

Helpful Resources

Muhammad Ali et al., *Ad Delivery Algorithms: The Hidden Arbiters of Political Messaging* (Dec. 17, 2019), <https://arxiv.org/abs/1912.04255>.

Sara Brown, *MIT Sloan research about social media, misinformation, and elections*, MIT SLOAN SCHOOL OF MANAGEMENT (Oct. 5, 2020), <https://mitsloan.mit.edu/ideas-made-to-matter/mitsloan-research-about-social-media-misinformation-and-elections>.

Gordon Pennycook et al., *Prior Exposure Increases Perceived Accuracy of Fake News*, 147 J. EXPERIMENTAL PSYCHOL. 1865, 1868 (2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2958246.

Soroush Vosoughi et al., *The Spread of True and False News Online*, 359 SCIENCE 1146 (2018), <https://science.sciencemag.org/content/359/6380/1146>.

Deep Fakes & Combating Disinformation

Another type of false information being automated and spread is known as “deep fake.” Deep fake, which is a combination of “deep learning” and “fake,” is used to describe synthetic media (photo, video, or audio) content, which is often created with malicious intent to spread mis or disinformation. Deep fake media are realistic but falsely generated media.

On March 18, 2019, the Virginia General Assembly amended the state’s statute prohibiting the dissemination of revenge pornography (i.e., “unlawful dissemination or sale of images of another person”) to cover media generated by deep fake software. Also, the National Defense

Authorization Act for Fiscal Year 2020 (NDAA) included provisions to address the threat of deep fakes from a national security perspective. These provisions are written into Section 5709 and 5724 of the NDAA.

The Washington Post discusses some methods of spotting deep fake video for the average user, primarily focused on critical thinking skills. Also, researchers from the Technical University of Munich, University Federico II of Naples, and University of Erlangen-Nuremberg were able to train a neural network to distinguish unaltered media from deep fake created media.

Helpful Resources

CLINT WATTS & FARID HAQUE, RESILIENCE SERIES: REAL FAKE (2021),
https://www.cisa.gov/sites/default/files/publications/cfi_real-fake_graphic-novel_508.pdf.

National Defense Authorization Act for Fiscal Year 2020, S. 1790, 116th Cong. (2019),
<https://www.congress.gov/bill/116th-congress/senate-bill/1790/text>.

Andreas Rössler et al., *FaceForensics++: Learning to Detect Manipulated Facial Images* (Jan. 25, 2019), <https://arxiv.org/abs/1901.08971>.

Elyse Samuels et al., *How to spot a fake video*, WASH. POST. (Mar. 19, 2021),
<https://www.washingtonpost.com/politics/2021/03/19/how-spot-fake-video/>.

VA. CODE ANN. § 18.2-386.2, <http://law.lis.virginia.gov/vacode/18.2-386.2>.