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Article abstract

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Technological advances amplify the speed and sophistication with which disinformation spreads, making it difficult to identify and counteract false information, which could be identified with adequate digital literacy. With the use of algorithms and big data analysis, AI is used to personalize political messages, segment audiences and predict electoral trends, seeking not only to persuade voters, but also to create an immersive and emotionally attractive narrative. To do this, the article shows cases of deceiving the audience by presenting false information in a realistic way.

Thanks to the formidable development of AI and the advent of synthetic humans, we are witnessing the profound transformation of the entertainment industry and, shortly, political marketing.





Artificial Intelligence, a Powerful Battering Ram in the Disinformation Industry

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Technological advances amplify the speed and sophistication with which disinformation spreads, making it difficult to identify and counteract false information, which could be identified with adequate digital literacy. With the use of algorithms and big data analysis, AI is used to personalize political messages, segment audiences and predict electoral trends, seeking not only to persuade voters, but also to create an immersive and emotionally attractive narrative. To do this, the article shows cases of deceiving the audience by presenting false information in a realistic way.

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Keywords: Artificial Intelligence, disinformation, Internet, socio-digital networks, government, fake news, entertainment, synthetic humans

1. The Dimensions of Cyberspace

According to what was established in the Digital 2024 Global Overview Report study, carried out by the firms We Are Social and Meltwater, at the end of January 2024 the population was estimated at 8,080,000,000 people, of which 5,350,000,000 are internet users. Internet penetration in the world population was established at 66.2%.

The number of users of socio-digital platforms and networks was determined at 5,040,000,000. The penetration of socio-digital networks in the world population was located at 62.3%. Internet users, on average, spend 2 hours and 23 minutes a day on socio-digital networks, and the monthly average (28 days) of socio-digital platforms and networks used was determined at 7.2.

The socio-digital platforms and networks with the highest number of accounts and profiles were: 1.- Facebook (3,049,000,000), 2.- YouTube (2,491,000,000), 3.- WhatsApp (2,000,000,000), 4.- Instagram (2,000,000,000), 5.- TikTok (1,562,000,000). Mark Zuckerberg and Meta Platforms own three of the five

platforms with the highest number of accounts and profiles (Facebook, WhatsApp, Instagram). They also own Facebook Messenger, which has 979,000,000 accounts.

Without considering Threads - the virtual platform with which Meta Platforms sought to displace Messenger) corresponded to unique users, the total "subjects" of the "Zuckerberg empire" would amount to 8,580,000,000 people, a figure higher than the world population estimated in January 2024 in the Digital 2024 Global Overview Report study. (8,080,000,000).

2. The Dimensions of the Disinformation Industry

Disinformation is a rapidly expanding industry with global dimensions. The actors and institutions involved obtain considerable profits, which have been estimated at billions of dollars. Furthermore, profits increase every year.

A number of governments, political parties, technology giants (big tech such as Google, Apple, Meta Platforms, Microsoft and Amazon), large corporations and companies, religious groups, extremist sects, organized hacker groups, independent agencies, even organized crime cells all participate in such a lucrative industry (Bradshaw & Howard, 2017). According to a report prepared by researchers at the University of Oxford (2022), the market value of the disinformation industry was estimated at 15 billion dollars in the year 2022.

Some researchers maintain that misinformation represents a relatively recent phenomenon, which the Internet introduced into contemporary societies; However, such an assessment is not correct. We must keep in mind that misinformation is not a recent phenomenon. It's not even a cultural phenomenon. The paleontology of information (Martín Serrano, 2007) allows us to understand that the use of lies and, in general, the use of misinformation, are not the exclusive privilege of sapiens. To survive, reproduce and hunt some species deliberately resort to deception. In reality, the Internet contributed to making misinformation a visible phenomenon, which, based on the development of socio-digital platforms and networks, has actually increased and worsened in an alarming manner (Murthy, 2018).

Information instantaneity represents one of the main attributes of virtual networks. Social platforms and media allow us to find out about the most relevant events that occur anywhere on the planet the instant they occur. However, instantaneousness does not imply informative rigor. Being aware is not enough, it is essential to be informed. This implies digital literacy that pursues the purpose of training more demanding and critical people in the consumption of information.

We must also highlight the remarkable capacity that socio-digital networks have achieved to influence people's emotions and feelings. In 2017, to install Donald Trump as president of the United States, the firm Cambridge Analytica (Kaiser, 2019) resorted to micro-segmentation (the scientific use of Big Data, socio-digital networks and algorithms).

The programming of the algorithms that support digital platforms (Haugen, 2023) effectively affects people's behavior. Haugen achieved great media notoriety in 2019 when, as Facebook's "deep throat", he decided to leak thousands of internal documents - primary and reliable information -, which made it possible to demonstrate that

the algorithms used in Mark Zuckerberg's socio-digital networks deliberately stimulate polarization and intolerance favor the proliferation of hate speech in supremacist groups and promote insecurity and low self-esteem among adolescents.

Frances Haugen promptly informed Zuckerberg of the negative effects produced by his socio-digital networks. The priorities of Zuckerberg, the main shareholder and owner of Meta, however was profits. For this reason, he ignored the suggestions made by Facebook's own engineers, who proposed modifying the algorithms that Instagram and Facebook had been using. This was revealed by Haugen who denounced Zuckerberg. To clean up Facebook's deteriorated image, at the Connect 2021 event, held on October 28, 2021, Zuckerberg announced the change of the name of his corporate, which will henceforth be called Meta Platforms, and sold the idea of involving the largest number possible of participants in the creation of a brave new world, which would derive from the development of Meta, its metaverse. (Islas, Arribas & Garcés, 2022). Not without a certain irony, Haugen stated that she did not understand how Zuckerberg intended to move his metaverse forward, when he has not been able to correct everything that is wrong in his networks and digital platforms.

Most of the algorithms that are used on platforms and social media respond to the purpose of stimulating user participation, as this increases the time they remain on digital platforms (Kaiser, 2019; Frenkel & Kang, 2021; Haugen, 2023). Controversies usually generate more intense emotional reactions among participants, including indignation and anger. In this way, it is possible to "hook" users for more time in virtual networks, who spend more time in socio-digital networks (Del Vicario et al, 2016). This creates greater traffic. As traffic increases, the profits that platforms obtain from advertising also increases.

According to the results of studies carried out by the firm, We Are Social, in recent years there has been a significant increase in the time that people dedicate to socio-digital networks. Furthermore, as demonstrated by specialized studies on information consumption, for example, those carried out each year by the Reuters Institute (2022) indicate that, currently, the majority of people find out about events with news impact through social media networks. The power of socio-digital networks leave narratives about remote-controlled societies and the establishment of video-ocracies far behind (Sartori, 1998).

A polarized environment is conducive to the proliferation of fake news, which serves the purpose of manipulating public opinion (Diresta et al, 2022). Much of the fake news that circulates through socio-digital networks is the result of disinformation campaigns carefully designed by experts. (Lazer et al, 2017; Alandete, 2020). However, the owners of the main socio-digital platforms and networks tend to downplay the seriousness of the problem, which they consider to be unfortunate and are involuntary collateral damage.

Ceron et al (2017) analyzed the spread of fake news through Twitter (now X). The authors conclude that fake news spreads faster than true news, and that people who share fake news are more likely to believe it and be influenced by its content. Benkler et al (2018) analyzed the use of socio-digital networks to spread fake news. The authors conclude that governments, political parties and other actors can use virtual networks to manipulate public opinion, promote their particular interests, and affect their adversaries.

The presidential elections held in November 2016 in the United States confirmed the power that socio-digital networks have achieved to influence public opinion. Allcott & Gentzkow (2017) analyzed the impact of fake news in these elections. The aforementioned authors conclude that socio-digital networks had a significant impact on those elections, particularly favoring Donald Trump, the candidate of the Republican Party. Bradshaw et al (2018) focused their attention on the spread of fake news. The authors conclude that these were disseminated massively through socio-digital networks, and that they influenced the result of the presidential elections.

Kaiser (2019) argues that the actions taken by Russian hackers against the Democratic Party servers and the files extracted from Hillary Clinton's computer had a secondary effect on the results of the elections. Disinformation campaigns and fake news undermined - he acknowledged - Hillary Clinton's chances. However, the participation of the firm Cambridge Analytica (CA) was decisive in the results of those elections. Kaiser (2019), who worked at CA, revealed details about the use of Big Data, the use of microtargeting techniques, and the use of algorithms designed to generate a favorable opinion of Donald Trump. To do this, Cambridge Analytica used the information of more than 80 million Facebook users, without the consent of Facebook or the permission of the users.

Alandete (2020) argues that the Internet and socio-digital networks represent an environment conducive to misinformation due to political polarization, the fragmentation of audiences, and the poor digital literacy of societies. Amoros (2022) maintains that digital platforms facilitate the dissemination of false information due to their global nature, massive reach, and ease of use. Aral et al (2018) highlight the importance that certain opinion leaders can exert on their followers in digital environments. The most enthusiastic and participatory followers tend to replicate the messages of the characters and references that are the object of their recognition and admiration. This gives greater authority to the opinions expressed by influencers. People are more likely to believe information provided by opinion leaders whom they already trust. From this premise (Haugen, 2023), experts in disinformation strategies deploy strategies based on indirect messages to influential opinion leaders with links to misleading information -selective disinformation-. But what happens when the influencers are not people but synthetic humans generated from Artificial Intelligence?

3. The Cyberspace, the Battlefield in the War of Representations

In the film *Wag The Dog* (1997) the political consultant Conrad Brean - played by Robert De Niro - hires a successful film producer, Stanley Moss - played by Dustin Hoffman - to create a smokescreen that allows attention to be diverted from the American public opinion of a sexual scandal in which the president of the United States was involved with a minor, and prevent the president from losing re-election.

Two weeks before the elections, the president was caught making sexual advances toward a minor, a girl scout, in the Oval Office of the White House. To divert public attention, Moss decides to invent a war with Albania, and create a war hero, who will need to be rescued. The operation aimed at rescuing the disgraced soldier effectively manages to capture the attention of public opinion. The aforementioned film, over the years, has become a reference in the imagination of propaganda and crisis communication, exhibiting the close links that exist between politics and entertainment. Today, to manipulate public opinion it is no longer necessary to resort to Hollywood to invent a war and manufacture a hero. Just turn to AI.

A month after the premiere of *Wag the Dog* in movie theaters in the United States, in January 1998 the Clinton-Lewinsky scandal exploded. After President Bill Clinton finally acknowledged having engaged in "inappropriate conduct" with Monica Lewinsky, one of the White House interns – he first categorically denied it – in a maneuver that seemed inspired by the film *Wag the Dog*, Clinton announced the bombing of alleged terrorist units in Afghanistan and a factory in Sudan, which was supposedly storing chemical weapons. In this way, it was possible to distract the attention of American public opinion from the Clinton-Lewinsky affair and, in the

process, it was possible to avoid the removal of the president.

AI today makes it possible to produce virtual celebrities, artists and influencers, which bring considerable economic advantages to their developers. This represents an extraordinary advantage over real characters. Synthetic humans can be present in multiple locations simultaneously. Their handlers avoid paying the considerable royalties that real celebrities demand. Furthermore, unlike real people, the behavior of synthetic humans and virtual influencers is no cause for concern. There is no need to include a large security team on the payroll dedicated to keeping the star away from temptations and scandals. Due to these and many other advantages, the presence of synthetic humans has spread rapidly in the music industry, marketing and the entertainment industry. It is appropriate to anticipate that, in the not too distant future, synthetic humans could be used as candidates for elected positions by political marketing experts.

The use of synthetic humans in the entertainment and fashion industry is not recent. In 1996, Kyoko Date (DK-96), a computer-generated 3D character, was introduced in Japan, who is considered the first virtual celebrity in the music industry. Kyoto was developed by Horipro in collaboration with Visual Science Laboratory Inc., to commemorate Horipro's 35th anniversary. At the launch of her, Kyoko was considered "the perfect woman" due to her qualities.

that many would like to have or men to find: beauty, youth, joy, dynamism and friendliness. She is a singer and, although her first album, Love Communication, has not been released, important Japanese companies are pursuing her with tempting contracts for her to appear in advertisements, television shows and movies. In addition to all this, she is, at just 17 years old, a true idol for thousands of young people. She only has one flaw: she doesn't exist. (The Nation, 1997)

In her fictional biography it was indicated that Kyoko was discovered while working at a hamburger restaurant across from Fussa Station - a passenger train station in Tokyo, Japan. She was born on October 26, 1979, she was 162 cm tall and weighed 42 kg. Her zodiac sign is Scorpio.

Two years later, in 1998, Adam was introduced, the first virtual singer in Korea, created by the company Adamsoft. Adam debuted with the album Genesis. His second album - Exodus - sold 200,000 copies. Adam appeared in advertising campaigns for some products. Her voice dubbing was done by Park Seung Chul -Zero-. According to what is stated in her fictitious biography, she was born on December 12, 1977, weighed 68 kg, and was 178 cm tall.

Also in 1998, the group Gorillaz (whose official site is <https://www.gorillaz.com/>) was launched, an English virtual band that brought together four fictitious members (2-D, Noodle, Murdoc Niccals and Russel Hobbs). Its creators were Damon Albarn - member of the musical group Blur - and Jamie Hewlett - illustrator of Tank Girl -. Gorillaz and their songs take place in a fictional universe, a rudimentary metaverse, which was generated by traditional animation and later evolved through computer animation. The band's first album - Tomorrow Comes Today - was released on November 27, 2000. Their first single - Clint Eastwood - was released on March 5, 2001, and reached number 4 on the music charts in the United States. United Kingdom. The commercial exploitation of that fictitious band extends to the present day. In 2023 Gorillaz released the single Silent Running.

On September 14, 1968, the CBS television network began broadcasting in the United States the animated series The Archie Show, inspired by the comic strip Archie, which Bob Montana produced in 1941. In the series of cartoons on television, a fictitious band was included -the Archies-, in which the protagonists of the animated series participated -Archie Andrews, Jughead Jones, Reggie Mantle, Betty Cooper and Veronica Lodge. The melodies performed by the Archies were actually performed by renowned studio musicians. In the fall of 1969, the single "Sugar, Sugar," written by Jeff Barry and Andy Kim, topped the Billboard 100 for four weeks, as well as

the UK singles chart for eight weeks. “Sugar, Sugar” is the most successful “bubblegum pop” single of all time. Of course some covers of that song have been generated. One of the most infamous was the one made for the group Magneto.

Another fictional character, Lil Miquela -Miquela Sousa- established a real watershed in the virtual celebrity market. Her first Instagram post of hers (<https://www.instagram.com/lilmiquela/>) was made on April 23, 2016. The character was created by Trevor McFedries and Sara DeCou. In two years, she reached a million followers. Her fictional biography indicates that she is a teenager who was born in Downey, California, of Brazilian descent. In 2018, Time magazine named her one of the “25 most influential people on the Internet.” Miquela has been used as a successful model for luxury brands such as Calvin Klein, Balenciaga and Prada. In addition, she has performed at events with celebrities such as Diplo, Millie Bobby Brown, Molly Soda, Pablo Vittar, Rosalía, Samantha Urbani, Shane Dawson. She has also given interviews to renowned fashion and entertainment publications such as Bogo, Business of Fashion, BuzzFeed, Highsnobiety, Nylon, Refinery29, The Cut and The Guardian. Every year Miquela reports earnings estimated at several tens of millions of dollars.

Emerging virtual environments, such as TikTok and metaverses, represent ideal spaces for the development of synthetic humans. On November 17, 2020, SM Entertainment's label made the official debut of the group AESPA with the release of the single “Black Mamba”. The uniqueness of this K-pop group lies in its members. Each of the four members - Karina and Winter from South Korea, Giselle from Japan and Ningning from China - corresponds to their respective artificial human. At the presentation of AESPA to the press, at an event held at the World Cultural Industry Forum, on October 28, 2020, Soo-Man, head of SM Entertainment stated: “Real-world members and virtual-world members share an AI brain that will allow them to meet in the digital world, talk to each other, and help each other by sharing information about their respective worlds. (Korea JoongAng Daily, 2020)”

The AESPA group has managed to position itself in the Korean pop music industry. On January 8, 2021, the video for “Black Mamba” reached 100 million views. Some of the group's hits, for example “Girls,” have sold more than one million copies during the first week after the single was released.

Eternity is the first K-Pop group whose members - eleven in total - are hyper-realistic avatars - synthetic humans -, in addition, all female and created by AI. (Sng, 2021). The title of his first hit is particularly paradoxical I'm real - in Spanish: I am real-. The members sing, dance and interact with their fans. The company that developed this project is PULSE9 (<https://pulse9.me/>), which called its technique “Deep Real”. With this, the firm intends to distance itself from deepfakes that reproduce real people. Deepfakes are a widespread practice in the pornography industry.

On September 28, 2021, The Soul Publishing firm presented Polar, an “independent virtual artist”, who has offered concerts on platforms such as TikTok and Roblox. The Soul Publishing firm, created in 2016 by Russians Pavel Radaev and Marat Mukhametov, is the largest video production center in the world, has more than 1.2 billion subscribers on socio-digital platforms and networks, and has developed some of the channels most popular on YouTube 5 like Minute Crafts, and Genial.

Finally, the group Mave (Wired, 2023), generated by the Korean company Kakao Entertainment, only exists in the metaverse. Its four members - all women developed by AI - interact with real fans around the world, including imprisonment. This can lead to a more repressive society, in which people would be afraid to express themselves freely.

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4. The Contribution of AI to the Disinformation Industry

On May 22, 2019, a video began to circulate on the main socio-digital networks that showed Nancy Pelosi, the then Speaker of the House of Representatives in the United States, in an apparent drunken state. That video went viral in a matter of minutes on the main socio-digital networks, and the word Pelosi became a trending topic. Donald Trump, then president of the United States, and Rudy Giuliani, former mayor of New York and influential member of the Republican Party, took the opportunity to mock Pelosi and damage her reputation.

However, the Speaker of the House of Representatives does not drink a single drop of alcohol. It was a deepfake. The video was removed from the main digital platforms. However, Mark Zuckerberg refused to remove it from Facebook (Frenkel & Kang, 2021). Although the video was not made with generative AI, this material is of particular importance for having anticipated the use that deepfakes could allow in the imaginary of political marketing and, in general, in the disinformation industry.

That video also marked the reprehensible narrative that would be used in deepfakes against women who participate in politics. Most non-consensual deepfakes typically feature sexual images of women participating in the public sphere. From the industry of blackmail and defamation of personalities, dirty propaganda has moved on to the production of pornographic scenes, which are mostly deepfakes.

AI is already used in disinformation campaigns to create and disseminate false content. At a relatively low cost it is possible to use generative AI to distribute false information around the planet. Generative AI can be used to develop fake texts, images and videos -deepfakes-, which are very difficult to distinguish from reality. Amit et al (2019) conducted some of the first research on deepfakes, which are fake videos and audios produced by manipulating real images or sounds. With AI it is possible to reproduce the voice of any person. To do this, just record a few seconds of your voice. With a relatively modest budget it is possible to have access to sophisticated resources to perform voice cloning with open source AI, for example, OpenVoice from MyShell. Companies like ElevenLabs have developed their own algorithms and AI software to create voice clones - audio programs that imitate users' voices. Voice cloning of course stimulates and extends the creativity and possibilities of the cybercriminal imaginary. Furthermore, deepfakes can be used to spread false information and damage people's reputation and credibility.

Thi Nguyena et al (2022) have focused their attention on the recognition of methods that allow deepfakes to be identified, which represent one of the problems related to the development of generative AI, an issue that has definitely become a cause for concern. for the administration of President Joe Biden, who decided to include deepfakes in the executive order he extended on AI (Wired, 2023).

President Biden's executive order comprises eight goals to regulate the development of AI: create new standards for AI safety; protect privacy; promote equity and civil rights; advocate for consumers, patients and students; support workers; promote innovation and competition; promote American leadership in artificial intelligence technologies; ensure responsible and effective government use of this technology. Biden has also asked the United States Department of Commerce to study the ideal ways to identify deepfakes, authenticate the content and trace their true origin.

We must keep in mind that the next presidential elections in the United States will be held on Tuesday, November 5, 2024. Within the framework of the presidential pre-campaigns, which are already underway, the campaign teams of some candidates have resorted to the dissemination of audios and videos manipulated by AI. Accounts affiliated with the campaign teams of former President Donald Trump and Florida Governor Ron DeSantis, who was seeking the Republican Party nomination, have circulated videos modified with generative AI

on the Internet. Faced with this scenario, some of the large technology companies have begun to adopt certain preventive measures. Google, for example, decided to incorporate some functions that help users who want to identify whether images of some material were generated by AI or if they were manipulated.

President Biden has been a recurring target of deep fakes. In February 2023, a manipulated video circulated showing him expressing alleged transphobic comments. That video quickly went viral through social-digital networks. However, Biden made no such comments. The video was altered. Also in February, Republicans openly questioned President Biden with a video made with AI. The video illustrates the situation that the United States would hypothetically face if Biden's re-election is consummated (Seisdedos, 2023). In another video, also modified, that circulated on Facebook in May 2023, President Biden appears to grope a girl. In addition, a legend was incorporated that indicates him as a pedophile. In the authentic video, Biden places an "I Voted" sticker on the chest of his granddaughter, whom he respectfully kisses on the cheek. The manipulated video highlighted the serious limitations of Facebook's policies regarding deep fakes. An altered video of a meeting held by Presidents Joe Biden (United States) and Pedro Sánchez (Spain) on May 12, 2023, in the Oval Room of the White House also circulated on socio-digital networks. The subtitles of the official transcript were modified. In the altered subtitles, Biden recriminates Sánchez "we are aware of his lack of moral values and leadership (...) When he leaves, close the door and don't come back." Some of the main companies dedicated to disinformation operate in Israel. In 2023, an investigation carried out by Forbidden Stories, The Guardian and Haaretz indicated that the firm "Team Jorge", whose CEO is Tal Hanan, has dedicated itself to influencing dozens of elections around the world. "Team Jorge" uses an online platform to automatically create texts based on certain keywords. The resulting texts are replicated through the main socio-digital networks, by an extensive chain of fake accounts (Andrzejewski, 2023). The firm has dedicated itself to offering its services to the political class. She has also been hired by certain companies. Recently, agencies specialized in the production of deep fakes supported by AI, such as Synthesia, burst into the political marketing market. The CEO of that company, based in London, is Victor Riparbelli. The aforementioned firm offers more than a hundred "digital humans" to be hired by its clients (Wired, 2023). Synthesia's services were hired in Venezuela by supporters of President Nicolás Maduro's government to create House of News in Spanish, a non-existent news channel, from which an avatar named Darren claimed that the information circulating in the international press regarding poverty widespread in Venezuela is exaggerated.

Conclusion

Throughout the article we have noted the rise of the disinformation industry, posing several significant challenges. On the one hand, the systematic spread of false information undermines public trust in reliable information sources, leading to greater skepticism and distrust in public perceptions. On the other hand, the speed and sophistication of socio-digital networks and artificial intelligence allow the rapid spread and creation of disinformation with difficulties in its identification. That is, the misinformation is presented so convincingly that it makes accurate identification difficult. This highlights the need for digital literacy skills to discern true from false information. Lack of media literacy skills makes people more susceptible to believing and spreading false information. Media and digital literacy can help build the critical capacity necessary to evaluate the veracity of information.

Likewise, we are witnessing the transformation of entertainment and the entertainment industry towards a new paradigm that presents significant changes in the way content is created, marked by the creativity generated using Artificial Intelligence. Furthermore, together with augmented reality and virtual reality, more immersive and personalized experiences are created for the public. Although these changes can have numerous benefits, they also present potential disadvantages such as the loss of authenticity and originality that are associated with human creativity due to the excessive integration of Artificial Intelligence in content creation.

There are also some who think that the transition towards this paradigm focused on AI and immersive technologies may make the industry more dependent on technology, increasing vulnerability to possible technical failures or service interruptions, which could negatively affect the customer experience. Furthermore, the digital divide would be even more visible since as new technologies are introduced, there is a risk of creating a digital divide between those who can access and enjoy these experiences and those who cannot, thereby excluding certain segments of the audience. Finally, collecting data to personalize experiences raises questions about the privacy and security of personal information. The regulatory initiative in the European Union on the use of Artificial Intelligence, the first in the world (will enter into force in 2026), suggests that AI systems that can be used in various applications be evaluated and categorized according to the level of risk that they may represent for users. Given such a panorama, we must address these challenges that require coordinated efforts involving governments, technological platforms, media, educators and society in general.

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