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The Impact of Artificial Intelligence on Social Media and Misinformation

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INTRODUCTION

Artificial intelligence has seen a significant increase in development in the past few years, with companies such as NVIDIA, Meta, and Google dedicating resources to its development with proprietary software. Specifically with Meta, as they own Facebook and Instagram, which are two of the most popular social media platforms on the internet, they have been overseeing the advancement of artificial intelligence when it comes to user engagement and curating to what the user likes on those platforms. Instagram has their own proprietary section dedicated to short form videos, which are called Reels, which is their version of what you would find on TikTok, another popular social media platform. The AI will gather information from what kind of content the user consumes and make an effort to curate similar content to farm user engagement, which can be both a beneficial and harmful effect. If it comes to a point where users are consuming content generated by AI and are news-related, that can be a huge concern when it comes to social media and the spread of misinformation.

There are benefits to AI usage in social media, such as improving user experience and advertising for business pages, but there are more risks when it comes to AI in social media, such as the potential spread of misinformation and data privacy violations. The spread of misinformation is a significant factor in the usage of artificial intelligence in social media, as social media platforms have the highest outreach to internet users. Misinformed users can potentially spread the wrong information, causing ripples of false information throughout platforms, which can wrongfully impact searches when it comes to any related topic. This paper will focus on artificial intelligence on social media development, specifically the spreading of misinformation and breach of data privacy, including its ethical, social, and security concerns.

OVERVIEW OF AI

Artificial intelligence, also known as AI, is a form of technology that is focused on performing tasks that traditionally require human interaction, such as problem-solving and decision-making. AI evolves through machine learning and neural networks on computers, and it improves its performance over time by performing tasks repeatedly to recognize patterns and outcomes. The rampant development of AI is due to advancements in computing technology and complex algorithms, such as hardware chips made by tech companies like NVIDIA and Intel.

The earliest development period, at least significantly, for artificial intelligence took place in the mid-20th century by Alan Turing, a British mathematician, where he conceptualized a computing machine that stores instructions and symbols through its memory. This machine would be known to this day as the Turing machine, in which all computers in the present use it as a foundation, especially when it comes to storing memory. Turing also had a hand in multiple experiments and concepts that would be tested in the 1940s and 1950s, such as the Turing test, which allows humans to play the role of the interrogator or the foil to distinguish the difference between a computer and a human. Today, AI can be found in many systems, such as social media, the internet, and digital assistants.

When it comes to digital assistants, they've been around for the past decade, some notable examples being Amazon's Alexa, Apple's Siri, and Microsoft's Cortana, but recently, there have been advancements made in the development of OpenAI's ChatGPT that make it a powerhouse of a tool used in the present. It's been used to generate images from text, which has a dedicated program in the form of DALL-E, and the development of the program allows for more accurate images to what can be seen in real life. When it comes to social media, machine

learning is used to gather recommendations for its users based on past interactions with older posts and stories. This can be found in the most popular social media platforms such as Facebook and Instagram, both owned by Meta, which also has its own division regarding AI development.

When it comes to gathering user information to give users the best experience on a social media platform, there are concerns that arise from this technology, especially with how AI gauges with the content that the user consumes. In addition, the user is required to input their personal information to use those platforms, which raises concerns about the safety of the user's data. With personalized posts gathered from what content the user consumes, more concerns arise from what type of content they are consuming, and it is especially troublesome when it comes to news information, and today where misinformation is easily spread, AI needs to be regulated when it comes to giving users a specific type of content. If users tend to like and follow more news-related media on social media platforms, then the algorithm will tailor to the user's preference, but eventually, it could reach a point where it can be confusing between fact or fiction.

Fake news itself has its own string of issues and controversies, but there is a connection between algorithms being tailored to a user's preference and the effect of fake news being widespread throughout social media. As of January 2025, there are about 5.2 billion social media users, which tally up to about 64% of the human population, and it is assumed that social media
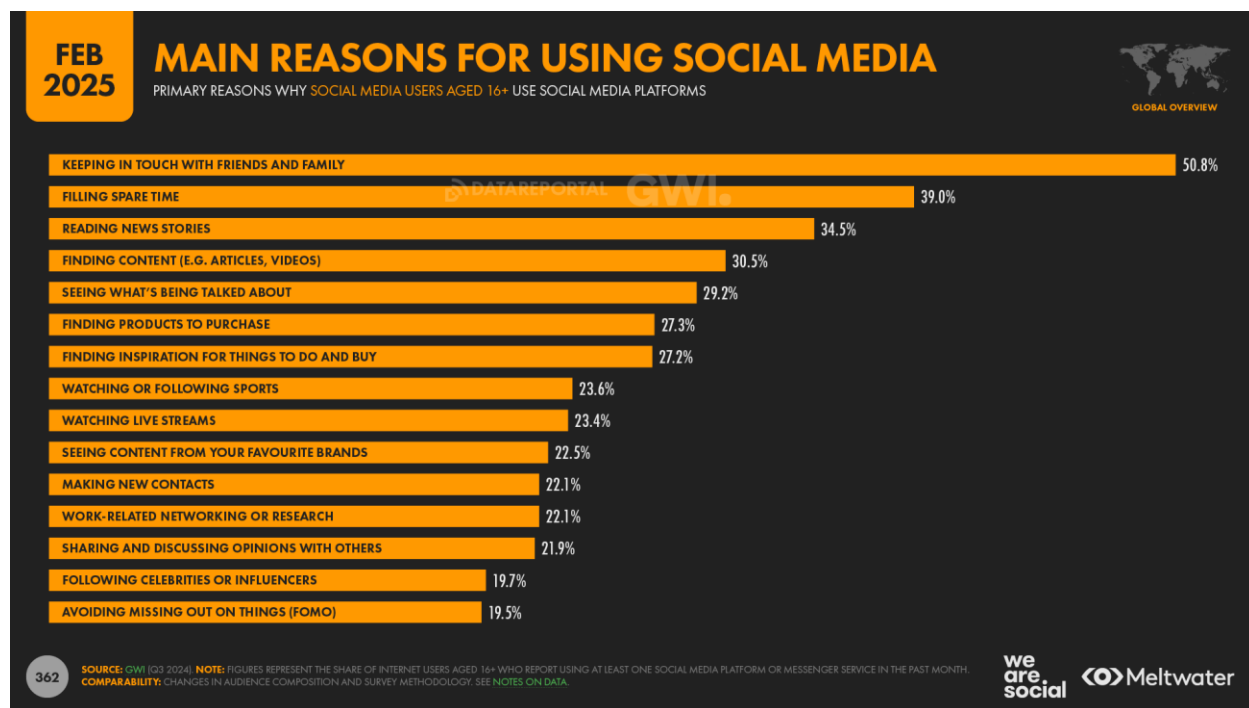
members will continue to increase day-by-day (Kemp).

Figure 1. Chart on what the main reasons for using social media for users over the age of 16.

(Kemp)

About 34.5% of social media users over the age of 16 use social media (Kemp) to stay updated

on current events and news articles, which is a significant amount of people amongst 5.2 billion

people. With these statistics, there is a higher chance that more people will access news that can

potentially be altered to fit a certain narrative, especially when it follows bias of some news sites.

Apart from the risks when combining the usage of artificial intelligence and social media,

there are certain merits that end up more on the positive side of the spectrum, such as social

media advertising, marketing, insights, and automaton (Sadiku 16). With these categories, it

seems that artificial intelligence can be used in a beneficial manner when it comes to helping

human individuals as opposed to creating their own generative content which can include

misleading information. When it comes to management, it seems that AI can be used as a tool for

humans to use when trying to organize a social media page or account and give advice on how to improve outreach (Benabdelouahed). Besides management, AI can also be used to analyze data from an account, such as the users that interact with the account or how many likes a post gets compared to a different post. After analyzing the data, the AI can give feedback to the user on what they can improve, including tactics that would bring in more users. Social media advertising and marketing go hand-in-hand with each other, as a lot of marketing in the current age relies on social media to boost sales and spread awareness, and AI can be used to reach out to other users based on the user's preference and algorithm. The automaton aspect allows for more business productivity by 40%, since humans don't have to manage the system for hours at a time and they can let a machine do all the analytics and operations (Sadiku 17). With AI's innate ability of machine learning, it can also learn from its own algorithms and refine its craft so that the system can achieve its highest efficiency on managing social media, and then the user can tweak the system to see what works and what doesn't.

LEGAL CHALLENGES

In the world of social media, artificial intelligence can be used in a multitude of ways, but when it comes to content creation, AI can take from preexisting works to generate content of its own, usually without permission. The generated content can sometimes mimic a preexisting work that has a distinct style, such as artworks from an established artist. A key example of this is the Studio Ghibli art style, which is a lighthearted fantasy-like art style that incorporates elements like nature and vibrant colors with a whimsical feeling, which AI systems such as DALL-E or Stable Diffusion like to mimic when it comes to generating AI art. Not including drawn artworks, it also includes photographs that AI can study and learn from. There is a legal case where Getty Images filed a lawsuit against Stability AI due to copyright infringement and unauthorized usage for AI development without any commercial license. When it comes to the original work and the AI generated work, the owner of the original work would also have their names tied to the AI generated work, as it takes from what the original work's style was like. Getty Images claims that Stability AI used nearly 12 million of their copyrighted images to train their AI models, which is a heavy task on its own due to their task on verifying each image on how it was used to train the Stability AI models. As there are over 12 million images, it becomes a near-impossible task to take on, and due to current regulations, copyright laws would have to include some sort of update to its policies with AI usage (Coulter 129).

In addition to the risk of copyright infringement from AI, there are also legal issues when it comes to data privacy of users and AI, especially with the General Data Protection Regulation (GDPR), which protects user information unless explicitly told by the user themselves on sharing data. With the uprising of AI in various tech systems, there is a small chance that even

without the user's consent, their data can be used to train an AI system, which has its own share of legal problems.

       The legality of AI usage on social media has its own spectrum, but as AI usage grows rampant among social media platforms, more content comes out, especially if it's regarding the news or any current events. Going back to the discussion on fake news and social media, it seems to be the place with the most misinformation, especially if it involves the usage of AI. In the present, AI has advanced enough that it can successfully create replicas of voices and faces of known figures, such as politicians, and that introduces many legal troubles, such as the origin, and AI moderation falsely flagging something as either true or false.

ETHICAL CONSIDERATIONS

The main issue with artificial intelligence comes from its ethical usage, or even the lack of ethics. Bringing back the topic of fake news and artificial intelligence, AI has gotten to a level where it can have three distinct types, analytical, human-inspired, and humanized (Kaplan 168). The humanized AI shows characteristics of cognitive, emotional, and social intelligence and can form its own thoughts especially regarding politics. It is self-aware and could, in fact, have a full-on discussion with another human, especially with its power to form its own thoughts, about politics. This indirectly influences how humans think when it comes to politics, because if they're not well informed by a legitimate news outlet, they could turn to artificial intelligence to gather their thoughts, which wouldn't be ideal and would have a higher risk of spreading misinformation. On the topic of politics, bias is a significant factor when it comes to certain news outlets. Depending on the AI system, it can be tailored to prefer a certain side over another, especially when it trains from different news outlets, which can either be left-leaning or right-leaning, and that will skew the results quite a bit. On a scale based off the algorithm, the algorithm could also lead the user into a side where there is a clear bias for either the left or the right or even lead them into a pit filled with fake news and unclear motivations.

SOCIAL IMPLICATIONS

Social media has the biggest impact when it comes to the social implications of artificial intelligence usage on its platforms. Again, the algorithm can personalize based on the user's preferences and experiences, but it can also trap the user into an echo chamber where they will be fed the same ideals and thoughts, especially in a news setting. It also stops differing viewpoints on a certain issue and can stray away from the truth if the user consumes too much of the content. That itself leads into a pit where the user won't be open to civil discussion on the topic due to the content they've been consuming on a certain topic. Going back to the topic of generative AI and how risky its existence is in a social media space, looking from a social standpoint, it falls into the same boat where misinformation can skew a user's perception on a situation, but it can also spread to other users based on the algorithm. It can cause discourse among communities, as well as reducing the amount of trust built over the internet due to the fake news. Generative AI also splits communities, as there are people that advocate for generative art compared to manmade art, citing that there is no need for human creativity if machines can do the same thing. AI has gotten so advanced to the point where it is difficult to tell the difference between something manmade or machine-made, and that itself can cause a lot of engagement and discourse over the usage of AI.

SECURITY CONCERNS AND STRATEGIES

The usage of AI on social media is inevitable, but there are many aspects that users should be aware of, especially when it can put the user at risk. Mentioned before was the usage of deepfakes, which can manipulate an image or video to represent something that may have consequences, even though it was never done or said in the first place. Not only can it affect figures of a higher power like politicians, but it can also happen to the common man, either for entertainment purposes or doctoring footage to cause harm. Depending on the individual's connections with other people, AI usage can be dangerous in terms of slandering an individual based off false pretenses. Regarding both the common man and politicians, situations can escalate tensions to the point of no return, even without verifying the source. It affects all places in the media, where it can be difficult to tell if something is truthful or doctored.

Although AI can be used for efficiency, there are certain points where it can be too efficient and information can be widespread at an alarming rate, especially if it includes bits of false information about a certain topic. As AI is automated, the rate that it can spread information is significantly increased compared to human output, which in turn can have harmful consequences for spreading information. It can also be liable for any misleading personalized campaigns, which create deceiving content aimed at changing viewpoints and spread misinformation about certain topics. AI can also be used as a method of exploiting its users by tapping into the system and changing the algorithm to showcase extremist content without being flagged.

For an artificial intelligence system to improve, it requires data to learn from, in which humans and individuals are susceptible to unauthorized data collection. This results in algorithms changing to fit the user's personal preferences, which can be beneficial, but there is a risk that can be exploited if there were a cyber-attack. Cyber-attacks can extract personal data and critical information from the platform's users and can be used as a ransomware tactic for money. Not only do cybercriminals benefit from data collection, many companies and even the government could use AI to monitor individuals, which calls for a concern in data privacy and civil liberties.

Luckily, artificial intelligence doesn't have to be a completely risky endeavor, as it can assist individuals against these security concerns. Current forms of AI can detect if there is any form of AI-generated content, which helps to distinguish what is the truth and what is doctored. AI training is also an important factor in protecting individuals from cyber-attacks, such as utilizing machine learning and complex inputs to discover any vulnerabilities within a system. The more methods that are tested within AI, the more resilient the system gets. Outside of using AI to protect individuals, it also falls on humans to perform regular security audits to check if any method needs updating to ensure the highest level of security against cyber-attacks. This also helps with protecting the data privacy of individuals. It also helps for an AI system to be transparent with its users, especially on why the system is collecting personal data.

CONCLUSION

As development in artificial intelligence continues throughout the 21st century, the AI being used in today's technology is still sufficient to assist individuals with managing social media, especially if the individual has little time to set up their accounts for their causes. The risks and negative factors of AI come from the generative portion, where deepfakes run rampant throughout social media as well as the spreading of misinformation. AI tools are at their most accessible today, especially with AI development significantly ramping up regarding chatbots and AI assistants. Accessibility is both positive and negative for AI usage, as it can be beneficial in the right hands, but can have consequences if used to promote hateful content or misleading information. As AI is used to personalize data for each individual user, it is beneficial for any user that wants to create their own advertisements or campaigns since AI can analyze what makes the campaigns work and how to improve certain aspects of the campaign. With the legal, ethical, and social standpoints of AI usage in social media, a significant amount of effort is needed to promote positive usage of AI, especially when trying to update laws to include the potential for AI usage. The youth tend to use AI more than their peers, either for schoolwork or their own projects, but it's important to teach the most ethical way so that they don't end up spreading the wrong information that can potentially be harmful.

SOURCES

(1) Monteith, S., Glenn, T., Geddes, J. R., Whybrow, P. C., Achtyes, E., & Bauer, M. (2024). Artificial intelligence and increasing misinformation. *The British Journal of Psychiatry*, *224*(2), 33–35. doi:10.1192/bjp.2023.136 https://www.cambridge.org/core/journals/the-british-journal-ofpsychiatry/article/artificial-intelligence-and-increasing-misinformation/DCCE0EB214E3D375A3006AA69FFB210D?utm_campaign=shareaholic&utm_medium=copy_link&utm_source=bookmark

This journal is useful due to its information on how artificial intelligence can increase the spread of misinformation on the internet. It goes in-depth about AI-generated content, specifically on how the models used to create this content don't know much about the topics that can be covered, and they can generate false information that can be spread. The article goes into the topics of politics, health, and social justice, in which there can be the most damage when it comes to AI-generated content and the outreach to internet users.

(2) Kaplan, A. (2020). Artificial intelligence, social media, and fake news: Is this the end of democracy. *IN MEDIA & SOCIETY*, *165*. ekt0000026.pdf

This chapter in a book of studies helps enforce the key point of using artificial intelligence in a social media environment, especially reinforcing the fact that social media is used to spread misinformation due to its widespread usage throughout the world. Within the context of artificial intelligence, there can be apps that implement

deepfakes to make it seem like something was said by another person, most likely a

person of a high power, such as a politician.

    (3) Kemp, S. (2025, February 5). *DataReportal – Global Digital Insights*. DataReportal –

        Global Digital Insights. https://datareportal.com/reports/digital-2025-sub-section-state-

        of-social

This website of infographics is useful due to the data collected of social media usage through

different age groups, as well as gathering information on different account types, brands, and

influencers. It helps by showing how widespread social media usage is in regard to real world

statistics, especially when relating the human population to the amount of people who are active

on social media. There is a section on the website that highlights the statistics on using social

media for news articles, including age groups, genders, and results over a period of time.

    (4) Romero Moreno, F. (2024). Generative AI and deepfakes: a human rights approach to

        tackling harmful content. *International Review of Law, Computers & Technology*, *38*(3),

        297–326. https://doi.org/10.1080/13600869.2024.2324540Sadiku, M. N., Ashaolu, T. J.,

        Ajayi-Majebi, A., & Musa, S. M. (2021). Artificial intelligence in social

        media. *International Journal of Scientific Advances*, *2*(1), 15-20. Volume2-Issue1-Jan-

        Feb-No.36-15-20.pdf

    (5) Matthew Coulter, Aiming for Fairness: an Exploration into Getty Images v. Stability AI

        and its Importance in the Landscape of Modern Copyright Law, 34 DePaul J. Art, Tech.

        & Intell. Prop. L. 124 (2024). https://via.library.depaul.edu/jatip/vol34/iss1/4

This case study goes over the lawsuit that Getty Images filed against Stability AI, over copyright

infringement and using real life, stock photographs in generative AI development. This study

helps with going over the legal challenges that can arise when it comes to using artificial

intelligence to create content, especially when posting it to social media in which it can be widespread. The study was written by Matthew Coulter, a J.D. (Juris Doctor) candidate from DePaul University of Law.

> (6) Copeland, B. (2025, February 25). history of artificial intelligence (AI). Encyclopedia Britannica. https://www.britannica.com/science/history-of-artificial-intelligence

This scholarly article includes important information on AI, such as the history of artificial intelligence and the multitude of advancements that have been made in the past century, starting with Alan Turing's contributions to AI development. Copeland has published multiple articles and books on Alan Turing himself, dating all the way back to 1993, and is the director of the Turing Archive at the University of Canterbury in Christchurch, New Zealand.

> (7) Benabdelouahed, R., & Dakouan, C. (2020). The use of artificial intelligence in social media: opportunities and perspectives. *Expert journal of marketing*, *8*(1), 82-87.
>
> The use of artificial intelligence in social media: opportunities and perspectives

This journal includes information on the application of artificial intelligence in social media, such as marketing, analytics, chatbots, and expanding social networks. This also goes in-depth about the potential benefits of using artificial intelligence in social media, as well as establishing AI as the next step in building networks, especially regarding marketing. The abstract includes information about how there is very little time for creating social media campaigns, but AI can be used as a solution to that issue.

> (8) Williamson, S. M., & Prybutok, V. (2024). The Era of Artificial Intelligence Deception: Unraveling the Complexities of False Realities and Emerging Threats of Misinformation. *Information*, *15*(6), 299. https://doi.org/10.3390/info15060299

(9) OpenAI. (2024). ChatGPT (December 14 version) [Large language model]. Retrieved

from **https://chat.openai.com/**

APPENDIX

Appendix A: ChatGPT Usage in Research Paper

1. Topic Brainstorming

    a. Prompt: "When it comes to artificial intelligence development, what will have the highest risk, specifically over the internet?"

    b. ChatGPT Response: ChatGPT supplied seven different areas where AI would be risky, such as misinformation, cyber-attacks, data privacy, algorithmic bias, AIgenerated content, phishing, and data manipulation.

2. Outline Refinement:

    a. Prompt: "In social media, what are some of the highest risks that come with the usage of artificial intelligence?"

    b. ChatGPT Response: ChatGPT gave seven significant risks on the usage of artificial intelligence in social media and focuses more on the previous topics that were mentioned in the "Topic Brainstorming" section.

3. Draft Suggestions:

    a. Prompt: "In a research paper about the risks of AI in social media, could you draft up a potential introduction about this topic?"

    b. ChatGPT Response: Gave a detailed introduction which was used as a reference for the final introduction written in this paper.

4. Proofreading Assistance

    a. Prompt: "Review the paper for any grammar issues and reword any phrases that seem hard to read."

b. ChatGPT Response: For what is finished, it scanned the paper for any glaring grammar mistakes and corrected them, in which I used to correct my own mistakes.