

Artificial Intelligence Neutrality: Framing Analysis of GPT Powered-Bing Chat and Google Bard

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Abstrak

Penelitian ini membahas netralitas dalam alat berbasis Kecerdasan Buatan (AI) dalam penyebaran informasi, khususnya Bing Chat yang didukung oleh GPT Microsoft dan Bard milik Google, di tiga topik geopolitik. Model framing Gamson dan Modigliani digunakan untuk mengevaluasi respon dari AI. Hasil menunjukkan bahwa meskipun ada upaya untuk mempertahankan netralitas, sudut pandang Barat--khususnya Amerika--tetap ada dalam narasi sehingga berlawanan dengan persepsi umum bahwa AI adalah teknologi yang netral. Temuan ini menunjukkan bahwa konteks geografis dan budaya dari pengembangan AI mungkin tanpa sengaja mempengaruhi framing terkait informasi yang dipaparkan. Studi ini menekankan perlunya memasukkan berbagai perspektif dalam pengembangan AI dan penelitian lebih lanjut dalam bidang ini. Keterbatasan termasuk sifat interpretatif dari model framing dan potensi pengaruh dari latar belakang budaya dan akademik.

Kata Kunci: Artificial Intelligence, netralitas AI, teknologi GPT, Bing Chat, Google Bard

Abstract

This study examined neutrality in Artificial Intelligence (AI)-based tools in information dissemination, specifically Microsoft's GPT powered Bing Chat and Google's Bard, across three geopolitical topics. The Gamson and Modigliani framing model was employed for evaluation of the AI responses. Results revealed that while efforts were made to maintain neutrality, subtle Western, specifically American, perspectives persisted in the narratives, challenging the prevalent perception of AI as a neutral technology. These findings indicate that geographical and cultural contexts of AI development may inadvertently influence narrative framing. The study emphasizes the need for incorporating diverse perspectives in AI development and further research into this sphere. Limitations include the interpretive nature of the framing model and potential influence of cultural and academic backgrounds.

Keywords: Neutrality, AI-based tools, GPT Technology, Bing Chat, Bard

INTRODUCTION

The rapid development and widespread use of Artificial Intelligence (AI)-based tools have raised new legal and ethical challenges, especially in the domain of information dissemination (Siau & Wang, 2020). One of the most prominent examples is the emergence of defamation lawsuits against OpenAI, the creator of ChatGPT, a chatbot that uses GPT technology to produce natural language responses (Southern, 2023). ChatGPT has been accused of fabricating false and harmful information about people, such as their involvement in criminal activities or lawsuits, which could damage their reputation and credibility (Klee,

2023). These cases raise questions about the accountability and responsibility of AI developers and users, as well as the reliability and accuracy of AI-generated information.

These defamation lawsuits illustrate the potential risks and consequences of AI-generated information, especially when it is inaccurate, misleading, or harmful. They also highlight the need for more research and scrutiny on the neutrality and bias of AI-based tools, especially those that are widely used and influential in the public sphere. One of the areas that deserves more attention is the role of AI in information dissemination, particularly through chatbot systems that interact with users and provide them with natural language responses (Rahimi & Abadi, 2023).

Previous research on AI neutrality and bias has explored various dimensions and implications of this issue, such as the legal, ethical, social, economic, and political aspects (see e.g.: Calo, 2017; Faggella, 2022; Ulnicane et al., 2021). However, there is still a lack of empirical studies that examine how AI-based tools actually present information to users and how they frame it in terms of tone, perspective, emphasis, and interpretation. Framing is a useful concept to analyze how information is constructed and communicated by different actors in order to influence public opinion and policy outcomes (Gamson & Modigliani, 1989). Framing can reveal the underlying assumptions, values, interests, and goals of the information providers, as well as the potential effects on the information receivers. Therefore, applying framing analysis to AI-based tools can provide insights into how they shape information dissemination and how they reflect or challenge existing power structures and norms.

This research delves into the relatively unexplored domain of neutrality in AI-based tools, with a specific focus on Microsoft's GPT-Powered Bing Chat and Google's Bard. These AI systems, underpinned by advanced natural language processing technologies, generate responses based on web search results. Bing Chat uses GPT-4, the latest iteration of OpenAI's language model, while Google's Bard is powered by Google's proprietary language model for dialogue applications, LaMDA (Bonk, 2023; Diaz, 2023; Endicott, 2023; Soni, 2023). These technologies enable Bing Chat and Google Bard to produce diverse, coherent, and contextually relevant responses to a myriad of queries. Yet, challenges to ensuring the neutrality and accuracy of the disseminated information are posed by them. The unique characteristics and technological diversity of Bing Chat and Google Bard render them suitable subjects for this investigation. As products of US-based companies, Microsoft and Google, these AI systems potentially carry biases that could influence the global information landscape.

The existing literature on AI neutrality and bias, as well as Gamson and Modigliani's framing model, furnish the foundation for this exploration. In the AI domain, the neutrality of these tools is considered of utmost importance. However, the pertinent literature suggests neutrality is not necessarily consistent, leading to potential biases in information dispersion. For example, research has shown that AI systems can exhibit biases related to gender, race, class, and other social factors, which can have negative impacts on individuals and groups (Calo, 2017; Ozmen Garibay et al., 2023; Satell & Abdel-Magied, 2020). Moreover, these biases can stem from various sources, such as the data, algorithms, design choices, and human interactions involved in AI development and use (Ozmen Garibay et al., 2023). This inconsistency gives rise to the primary research question of this study: do these AI systems exhibit impartiality or inherent bias?

Against this backdrop, the objective of this study is explicitly defined: to examine the neutrality or inherent bias within Microsoft's GPT-Powered Bing Chat and Google's Bard when disseminating information. This study is designed to scrutinize the delivery of responses from these chatbots when prompted with identical questions about current geopolitical issues. The goal is to uncover whether these systems present information impartially or with a certain level of bias, potentially influenced by their US-based developers.

This research puts the spotlight on Bing Chat and Bard because of their significant roles in information delivery, driven by search engine capabilities. The geopolitical focus of the investigation is stirred by the possibility that the developers' home country could influence the neutrality of the presented information, serving as a potential source of bias.

The study is framed within a conceptual model that intertwines the theories of AI neutrality and bias, using Gamson and Modigliani's analytical model as a scaffold. The contention is that the interplay between these elements can deliver a more nuanced understanding of AI's role in information dissemination, particularly in the context of these chatbot systems.

To study the neutrality of information produced by both chatbots, framing analysis is applied as the analytical method. Framing analysis, a concept and technique originating in sociology and communication studies, has been widely adopted across various fields like media, politics, psychology, and education (Entman, 1993; Scheufele, 1999; Van Gorp, 2007). This method scrutinizes how information is constructed and communicated by different actors to influence public opinion and policy outcomes (Gamson & Modigliani, 1989). It unveils underlying assumptions, values, interests, and goals of information providers and potential effects on the receivers of this information.

Several reasons justify the use of framing analysis in this research. Primarily, it facilitates a comparison of how Bing Chat and Google Bard present information on identical topics, emphasizing or de-emphasizing certain aspects or perspectives. Secondly, it allows the assessment of the degree of neutrality or bias in the information provided by the chatbots, and how they align or diverge from existing norms and standards. Lastly, it aids in understanding the implications of information framing for users and society at large, and how it might impact perceptions, attitudes, and behaviors.

A key aspect of framing analysis is the selection of a framing model that guides the identification and analysis of frames. There are different models of framing analysis proposed by various scholars, including Entman's model, Edelman's model, Pan and Kosicki's model, and Gamson and Modigliani's model (Edelman & Poverty, 1977; Entman, 1993; Gamson & Modigliani, 1989; Pan & Kosicki, 1993). Each model bears its own strengths and limitations, reflecting different theoretical and methodological assumptions about how frames are constructed and communicated. A brief description of these models and an explanation for choosing Gamson and Modigliani's model is provided in the research.

For this study, the model proposed by Gamson and Modigliani is chosen as the most suitable for identifying neutrality presented by AI chatbots. This model identifies the two structures of a frame as the core frame, which refers to the central idea, and condensing symbols, which stand for the framing devices and reasoning devices. Under the umbrella of framing devices fall elements such as metaphors, catchphrases, exemplars, depictions, and visual images. On the other hand, reasoning devices encompass roots, representing causal analysis, and appeals to principle, signifying moral claims (Gamson & Modigliani, 1989). These elements act as indicators to identify and analyze the frames used by Bing Chat and Google Bard in their responses to identical questions about current geopolitical issues.

This choice over other models of framing analysis arises from its suitability in capturing more nuances and variations in how chatbots frame information. Unlike Entman's model, focusing on four functions of frames, or Edelman's model, emphasizing the role of symbols and myths, or even Pan and Kosicki's model, reliant on structural analysis of text, Gamson and Modigliani's model offers more flexibility and creativity in identifying and interpreting frames.

Previous research on framing and information neutrality has delved into various dimensions and implications of this issue, such as the effects of framing on political decision-

making (Oxley, 2020), the power of framing in influencing public opinion (Hansen, 2020), and the challenges of framing governance for contested emerging technology (Ulnicane et al., 2021). Yet, a lack of empirical studies exist that examine how AI-based tools present information to users and how they frame it in terms of tone, perspective, emphasis, and interpretation. Little research on how concepts of bias or neutrality apply within the framework of framing analysis and their measurement or evaluation is available. For instance, determining whether a chatbot's response is neutral or biased, the criteria or standards for such a judgment, or comparing the neutrality or bias of different chatbots remains ambiguous, including the factors or sources that influence their framing choices.

This research addresses the specific gap of how Microsoft's GPT-Powered Bing Chat and Google's Bard frame information when disseminating it to users in response to identical questions about current geopolitical issues. This gap ties to the main concept of framing analysis and its key elements, as well as the identified gaps in literature on empirical studies of AI framing and its effects. The identification of this gap validates the need for this study and its potential contribution to the field of communication and information technology.

METHODS

This study, grounded in a constructivist paradigm and employing framing methodology, aims to investigate how AI chatbots present information to users and how they frame it in terms of tone, perspective, emphasis, and interpretation. The research question that guides this study is: How do Google Bard and Bing Chat frame information when disseminating it to users in response to identical questions about current geopolitical issues? The context of this study is the increasing use and influence of AI chatbots in information dissemination, especially concerning geopolitical issues that have significant implications for global peace and security. The study seeks to contribute to the understanding of how AI chatbots construct and communicate information, and how they align or diverge from the norms and standards of neutrality and objectivity.

AI chatbots are software applications that use natural language processing and machine learning to interact with human users via text or voice (Shawar & Atwell, 2007). AI chatbots have transcended their initial roles as digital assistants, evolving into formidable conduits of information dissemination. By providing information in a conversational, personalized, and engaging manner, AI chatbots can influence users' beliefs, opinions, and behaviors on various topics and issues (Rapp et al., 2021). However, AI chatbots also pose challenges and risks for information quality, credibility, and ethics. Depending on how they are designed, trained, and deployed, AI chatbots may present information that is inaccurate, incomplete, biased, or misleading, potentially harming users' knowledge and decision making (Ulnicane et al., 2021).

This research employs a qualitative strategy, utilizing interactions with online chatbots as the main data collection source. Subsequently, the gathered data is subjected to framing analysis, forming the core of the data evaluation procedure. Hence, the study effectively splits into two phases - initial data collection via chatbot interaction, followed by analysis of the acquired data using framing analysis. During the data collection phase, interactions occur with two AI chatbots, Google Bard and Bing Chat, through an online platform. The same question is posed to both chatbots: "Tell me about current geopolitical issues." Three issues mentioned by both chatbots are selected based on their responses. For each issue, a follow-up question is asked to both chatbots using the phrase "Tell me about..." For instance, concerning the issue of Russia and Ukraine war, the question would be, "Tell me about the Russia and Ukraine war." All chatbot responses are recorded and stored as text files for further scrutiny. The dataset comprises six text files: three from Google Bard and three from Bing Chat. Each text

file contains the chatbot's reaction to one of the three chosen issues. The responses vary in length, complexity, and style, depending on the chatbot's design and functionality.

During the data analysis phase, the framing model by Gamson and Modigliani (1989) is applied. This model comprises two categories. The first category includes framing devices such as metaphors, catchphrases, exemplars, depictions, and visual images. The second category, known as reasoning devices, embodies roots - indicating causal analysis - and appeals to principle, signifying moral claims. Each response is coded according to these elements, and the frames are compared across both chatbots and issues. The potential limitations and biases in conducting this assessment are acknowledged, striving for objectivity and transparency in the process. The detailed analysis intends to present key findings, patterns, or trends that emerge from the data. Furthermore, it seeks to demonstrate how Google Bard and Bing Chat frame information, whether differently or similarly, on each issue. The implications of their framing choices for user understanding and issue evaluation are also considered. Lastly, the analysis explores the assessment of neutrality and potential biases within each chatbot's response.

RESULTS AND DISCUSSION

Our examination focused on two notable conversational AI services introduced by leading technology companies: Bing Chat by Microsoft and Bard AI by Google. These AI services function as advanced platforms for user interaction, providing assistance with a variety of tasks and inquiries. The following sections present a detailed exploration of these AI platforms and the results of our framing analysis.

Unveiled in February 2023, Bing Chat is a conversational AI service from Microsoft that leverages GPT technology. This type of AI, known for generating human-like text, uses a vast amount of pre-trained data for content creation. Bing Chat allows users to interact with an AI assistant within Microsoft's Edge browser sidebar, offering support with writing, planning, or crafting content. In addition, it can perform searches and provide answers relevant to the web page currently viewed by the user (Mehdi, 2023). Microsoft, a leading technology company based in the USA, is recognized for developing, manufacturing, and selling a range of software, hardware, and services. It is also renowned for its pioneering research in artificial intelligence and beyond (Good, 2020).

On the other hand, Google launched Bard AI in March 2023. This conversational AI service utilizes LaMDA, a large language model research product, to generate responses grounded in web search results. Bard AI can assist users with a variety of tasks and inquiries, ranging from providing guidance and explaining concepts, to sparking creativity (Hsiao & Collins, 2023). Google, a USA-based technology company established in 1998, specializes in a range of internet-related services and products, such as online advertising, search engines, cloud computing, software, and hardware. Google is also recognized for its pioneering work in the field of artificial intelligence among others (Redding, 2018).

A research session was held on July 6, 2023, at 17:26 Jakarta time (GMT +7), during which both Bing Chat and Google's Bard AI were asked the same question: "Can you inform me about current geopolitical issues?" The answers provided are as follows:

Table 1. Answers generated by AI Chatbots for Current Geopolitical Issues

Answers from Bing Chat	Answers from Google Bard
Russia cutting off gas to Europe: This could cause a recession in the eurozone, high inflation, energy shortages, and political instability	The Russia-Ukraine War: This has caused a humanitarian crisis in Ukraine and has had a significant impact on the global economy
China's zero-COVID policy: This could lead to more lockdowns, supply chain disruptions, lower growth, and increased tensions with other countries	The rise of China: China's increasing assertiveness on the world stage and growing economic and military power is causing concern among some countries
Food insecurity crisis: This could result from climate change, conflict, population growth, and poor governance, leading to hunger, malnutrition, social unrest, and migration	Climate change: This global issue is causing more extreme weather events, which are leading to displacement and conflict
Afghanistan: The Taliban takeover has created a humanitarian crisis, a security vacuum, and a challenge for regional stability	Ongoing Middle East conflicts: This region is constantly in flux with ongoing conflicts including the Syrian Civil War, the Yemeni Civil War, and the Israeli-Palestinian conflict
Iran: The nuclear deal negotiations have stalled, raising the risk of a military confrontation or a nuclear arms race in the Middle East	The US-China rivalry: This is a major source of tension as the two countries compete for global dominance in a number of areas, including economics, technology, and military power
North Korea: The regime continues to develop its nuclear and missile capabilities, posing a threat to its neighbors and the international community	The North Korea nuclear crisis: This long-standing geopolitical issue remains unresolved. North Korea has continued to develop its nuclear weapons program, and there is concern that it could use these weapons against its neighbors or the United States
Intensified geopolitical tensions: These could weaken the economic landscape even further, resulting in lingering inflation or depressed growth even if current pressures subside	(No corresponding issue identified by Google Bard)
Deglobalization: This could undermine the benefits of trade, investment, and cooperation, leading to lower productivity, higher costs, and reduced innovation	(No corresponding issue identified by Google Bard)
Asian territorial disputes: These could escalate into armed conflicts or cyberattacks, affecting regional security and stability	(No corresponding issue identified by Google Bard)

Source: Bing Chat and Google Bard Conversation

Based on the provided answers, there are 3 issues that we will further inquire about to both chatbots regarding the neutrality of the information provided. These three issues were chosen based on similar concerns raised by both chatbots regarding geopolitical issues. The three issues are: 1) The Russia-Ukraine War; 2) The Rise of China; and 3) The North Korean Nuclear Crisis.

Subsequent steps involve a framing analysis using the Gamson and Modigliani model based on chatbot responses. After presenting the responses in an organized table, an in-depth analysis will evaluate the inherent neutrality or bias in the framing choices made by the chatbots.

The Russia-Ukraine War

The question posted on Bing Chat and Google's BARD is: "Tell me about The Russia-Ukraine War." Here is the framing analysis based on the answers provided by both chatbots:

Table 2. Framing Analysis to AI Chatbots respond for The Russia-Ukraine War

Framing Devices	BING Analysis	BARD Analysis
Metaphors	The "pro-European revolution" metaphor.	No prominent metaphors used.
Catchphrases	"full-scale invasion", "humanitarian crisis", "geopolitical tensions".	"Europe's largest refugee crisis since World War II", "long-running conflict", "post-Cold War order".
Exemplars	Russia's annexation of Crimea, the violation of ceasefire agreements, use of Iranian drones and Wagner mercenaries by Russia.	A timeline of key events from Russia's annexation of Crimea in 2014 to the full-scale invasion in 2022.
Depictions	Conflict as an international issue.	Emphasis on the large scale and severe impact of the war.
Reasoning Devices		
Roots	Describes cause-and-effect relationships, from pro-European revolution to full-scale invasion.	Identifies root causes as disagreements over the status of Crimea and the Donbas region, Russia's denial of aggression, and the West's response of sanctions.
Appeal to principle	Respect for sovereignty and human rights.	Appeals to principles of international law and human rights.
Consequences	Includes death and displacement, humanitarian crisis, increased geopolitical tensions, potential risk of a nuclear accident.	Discusses the refugee crisis, global economic impacts, disruption of supply chains, uncertainty regarding security of Europe.

Source: Bing Chat and Google Bard Conversation Analysis Using Gamson and Modigliani framing model.

Overall, both BING and BARD analyses generally conform to an international viewpoint. However, they may lack neutrality due to the omission of a clear Russian perspective.

Neutrality:

- Both analyses present the events of the Russia-Ukraine conflict factually and chronologically, acknowledging the issue's complexity without explicitly favoring one country or viewpoint.

Bias:

- Both BING and BARD analyses primarily adopt a Western or international viewpoint, framing Russia as the aggressor through references to its annexation of Crimea, ceasefire violations, and full-scale invasion of Ukraine.
- While the actions of Russia are mentioned, there is a lack of depth regarding Russia's stated reasons for these actions or its perspective on the conflict. This omission may give the analyses a perceived bias towards the international perspective."

The Rise of China

The question posted on Bing Chat and Google's BARD is: "Tell me about The Rise of China." Here is the framing analysis based on the answers provided by both chat bots:

Table 3. Framing Analysis to AI Chatbots respond for The Rise of China

	BING Analysis	BARD Analysis
Framing Devices		
Metaphors	The "rise of China" as a metaphor, representing the country's rapid growth and increased influence on a global scale.	Figurative concept of China "rising" captures the dramatic nature of China's transformation.
Catchphrases	"World's second-largest economy", "major player in global governance", "modernized its armed forces".	"Geopolitical development of the 21st century", "shift in the global balance of power", "major challenger to the United States".
Exemplars	China's involvement in UN, WTO, G20, BRICS, territorial claims in the East and South China Seas and the Taiwan Strait, status as the world's largest exporter, importer, manufacturer, and consumer of many goods and services.	Economic reforms, foreign investment, education, technology, and population as key factors contributing to China's rise.
Depictions	China as a rising superpower with significant economic, political, and military strength. Implications for	China as a rapidly growing economic and military power, discussing China's economic achievements, role in global

	global development and stability.	trade, investment, and political assertiveness.
Reasoning Devices		
Roots	Economic reforms and opening up of China in the late 1970s as the cause of the country's rapid growth and rising influence.	The roots of China's rise traced back to economic reforms implemented in the late 1970s, setting up a cause-and-effect relationship.
Appeal to principle	Implicit appeal to principles of international cooperation, mutual benefit, and respect for international norms.	Acknowledges potential issues related to China's rise, appealing to international norms and values.
Consequences	Potential implications of China's rise, including opportunities for cooperation and tensions over issues such as human rights, democracy, trade rules, and security alliances.	Consequences discussed include a shift in the global balance of power, impacts on the global economy, commodity prices, and potential changes in global leadership.

Source: Bing Chat and Google Bard Conversation Analysis Using Gamson and Modigliani framing model.

The overall takeout from the BING and BARD framing analyses of China's rise is that this significant geopolitical shift is complex, with both opportunities and challenges. While both analyses present detailed and nuanced views, they predominantly adopt a Western perspective, framing China's rise in the context of its potential challenge to the United States and the existing global order.

Neutrality:

- Both BING and BARD analyses provide a balanced view of China's rise, acknowledging both the positive and negative implications. They present a detailed and comprehensive account of China's growth trajectory, economic influence, and political assertiveness without overtly favoring any perspective.
- The analyses reference internationally recognized frameworks such as the WTO, G20, and UN to assess China's global influence, indicating an objective, international viewpoint.

Bias:

- While both analyses do a good job of explaining China's rapid development, they may be interpreted as biased towards a Western perspective. The emphasis on concepts such as democracy, human rights, and international norms reflect Western values, potentially downplaying the significance of China's own socio-political context and perspectives in its rise.
- The analyses could be seen as biased in framing China's rise mainly in the context of its potential challenge to the United States and the existing global order, reflecting a Western-centric view of international relations.

- The use of certain phrases like "major challenger to the United States" and "shift in the global balance of power" can be seen as subtly pushing a narrative of China as a threat, which can be indicative of a bias.

The North Korean Nuclear Crisis

The question posted on Bing Chat and Google's BARD is: "Tell me about The North Korean Nuclear Crisis." Here is the framing analysis based on the answers provided by both chatbots:

Table 4. Framing Analysis to AI Chatbots respond for The North Korean Nuclear Crisis

	BING Analysis	BARD Analysis
Framing Devices		
Metaphors	"North Korea nuclear crisis" used to signify ongoing tension and threat.	Uses the metaphor of the "crisis" to underline urgency and grave nature.
Catchphrases	"hydrogen bomb", "intercontinental missiles", "denuclearization"	"North Korea nuclear crisis" stands out as a significant catchphrase.
Exemplars	Six nuclear tests since 2006, summits between Trump and Kim, potential targets of North Korea.	Timeline of key events serving as concrete examples.
Depictions	Depicted as a serious threat to regional and global security.	Depicted as a rogue state in violation of the NPT and a threat to security.
Reasoning Devices		
Roots	Attributes crisis to North Korea's pursuit of nuclear weapons and international community's inability to persuade denuclearization.	Identifies North Korea's NPT withdrawal announcement in 1993 as the root cause.
Appeal to principles	Appeals to principles of international security, nuclear non-proliferation, diplomatic resolution of conflicts.	Appeals to principles of international law and treaty compliance.
Consequences	Outlines potential disastrous consequences, including risk of a military conflict, a nuclear exchange, proliferation of nuclear technology.	Warns of potential consequences including the threat of North Korea using its nuclear weapons, blackmailing neighbors or the U.S, or selling nuclear technology.

Source: Bing Chat and Google Bard Conversation Analysis Using Gamson and Modigliani framing model.

In general, while the text predominantly aligns with the conventional international perspective, it might lack neutrality due to the absence of North Korea's perspective. There seems to be an innate bias in the framing of the crisis, as it centers chiefly on the danger North Korea poses to worldwide security.

Neutrality:

- Both BING and BARD present the situation in North Korea in a factual manner, outlining key events and facts, such as North Korea's withdrawal from the NPT and its series of nuclear tests. This shows an attempt to maintain neutrality.
- Both chatbots appeal to international principles like nuclear non-proliferation, international security, and compliance with international laws, suggesting a balanced approach.

Bias:

- However, both BING and BARD predominantly adopt a Western or international perspective, framing North Korea as a rogue state and a serious threat to global security.
- North Korea's perspective or its stated reasons for pursuing nuclear weapons is not mentioned. This absence of North Korea's viewpoint might result in the perception of bias towards the international community's stance.
- In terms of the reasoning devices, while both identify the roots of the crisis, they primarily focus on North Korea's actions and the international community's responses, again indicating a bias towards an international perspective.

In this study, Gamson and Modigliani's framing model was applied to conduct an in-depth analysis of the responses by Bing Chat and Google's BARD, AI platforms developed by American corporations Microsoft and Google, to three geopolitical subjects: The Russia-Ukraine War, The Rise of China, and The North Korean Nuclear Crisis.

The Gamson and Modigliani framing model effectively identifies framing devices and reasoning devices that guide larger frame packages. This approach enables a nuanced understanding of how AI narratives are constructed and their subsequent impact on audience interpretation. However, the model does have limitations; it is largely interpretive and depends on the analyst's capacity to discern subtle cues in language and structure, thus creating potential for analyst bias.

The research sought to scrutinize the neutrality or inherent bias present within Microsoft's GPT-Powered Bing Chat and Google's BARD during the dissemination of information about these subjects. Through the application of the chosen model, the study endeavored to ascertain whether the geographical and cultural context of these AI systems' development influenced their framing.

Our analysis revealed a clear effort by both Bing and BARD to sustain neutrality in their narratives. However, the investigations also exposed biases subtly integrated into these narratives, which primarily mirror a Western, and specifically, an American perspective. This observation corroborates Hansen (2020) assertion about the power of framing in shaping public opinion and is consistent with Ulnicane et al.'s (2021) argument regarding the challenges of framing governance for contested emerging technology.

The theoretical implications highlight the impact of developers' cultural and geopolitical contexts on AI framing. In terms of practical implications, our study aligns with calls for diversifying perspectives in AI development. The findings imply that achieving fair representation is not only about representation but also about counteracting the subtle

perpetuation of the developers' ideologies - a factor that could unintentionally influence these systems' users. To facilitate this, encouraging collaboration with a global consortium of developers and establishing industry-level guidelines for the representation of diverse viewpoints could be beneficial.

Our study contributes to the ongoing discourse on AI narrative framing in several ways. It builds upon Oxley's (2020) work on the effects of framing on political decision-making by showcasing how the framing by AI platforms can influence perceptions about geopolitical issues. Furthermore, to the best of our understanding, this study might be the inaugural application of the Gamson and Modigliani framing model to AI platforms and the first to juxtapose the framing of geopolitical events by Bing and Google's BARD. This comparative approach enhances our comprehension of framing in AI narratives and paves the way for future research in this field.

Our research reiterates the impact of developers' cultural and geopolitical contexts on AI framing from a theoretical standpoint. Previous research supports this view, showing that AI systems can display biases related to gender, race, class, and other social factors, often stemming from various elements such as data, algorithms, design choices, and human involvement in AI development and usage (Calo, 2017; Ozmen Garibay et al., 2023; Satell & Abdel-Magied, 2020). Consequently, the subtleties of AI narrative framing are deeply entwined with ethical, social, economic, and political implications (Calo, 2017; Faggella, 2022; Ulnicane et al., 2021).

On the practical front, our study echoes calls for diversifying perspectives in AI development. Understanding that these biases can negatively affect individuals and groups (Calo, 2017; Ozmen Garibay et al., 2023; Satell & Abdel-Magied, 2020), our findings indicate that mitigating the subtle reinforcement of the developers' ideologies is a vital step towards achieving fair representation and neutrality. Such efforts must consider the wide-ranging legal, ethical, social, economic, and political factors that play a role in AI development.

The intricacies of AI narrative framing hold far-reaching implications for our global information ecology. This study underscores the immediate necessity for further research and collective industry action to guarantee the representation, balance, and impartiality of AI narratives.

CONCLUSION

The AI platform tries to maintain neutrality, but the results still contain a subtle bias that reflects a western perspective, especially America. Furthermore, it underscores the urgent need for diversified perspectives in AI development and the establishment of industry-level guidelines to ensure fair representation, neutrality, and balance in AI narratives, thus mitigating the unintentional influence of the developers' ideologies. An exploration was conducted with the goal of uncovering neutrality or potential bias in the way Microsoft's Bing Chat and Google's BARD disseminated information about three key geopolitical topics: The Russia-Ukraine War, The Rise of China, and The North Korean Nuclear Crisis. The Gamson and Modigliani framing model was implemented in this pursuit, providing a structured and systematic methodology for dissecting the AI narratives.

The outcomes of our analysis highlighted the efforts made by both Bing Chat and Google's BARD to sustain neutrality in their narratives. Interestingly, a subtle Western, and particularly American perspective, permeated these narratives. This finding suggests that the geographical and cultural milieu of the AI systems' development may have influenced their framing of the topics under review.

This finding carries significant implications as it confronts the prevalent perception of AI as a neutral technology. The common preconception is that AI, as a machine-driven

technology, can objectively process and present information, free from human biases. Our research, however, reveals that subtle biases reflective of the developers' viewpoints can infiltrate AI narratives. This shift in understanding underlines the critical need for the integration of more diverse and inclusive perspectives in AI development, moving away from the singular lens of Western, specifically American, narratives. Our study, nonetheless, is not without limitations. The application of the Gamson and Modigliani framing model, though effective in identifying framing devices and reasoning devices, is reliant on the analyst's interpretive skills. Also, the cultural and academic landscape that influenced the model could limit its ability to discern broader perspectives.

Looking ahead, future research could build on this study, exploring similar themes across an expanded range of AI platforms, including those developed outside the West. Methodologies could be refined to a more comprehensive understanding of narrative framing in AI. Overall, this study deepens our understanding of the nuances of AI narrative framing and their repercussions in the global information ecosystem. It amplifies the call for the integration of diverse perspectives in AI development to ensure balanced representation and neutrality. Moreover, the study's findings underscore the need for further exploration in this field and serve as a stark reminder of the significant influence AI systems can exert in shaping perceptions about critical global issues.

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