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Assessing the Role and Impact of Artificial Intelligence during Global Crisis Management: A Case Study of COVID-19

Abstract

Due to its ubiquity and relatively minimal regulatory oversight, artificial intelligence (AI) plays a significant role in the dissemination of information. Though this is a crucial function and by-product of technological advancement that has the ability to save lives and communicate crucial information, it also represents a challenge as managers of AI, driven by profit and ulterior motives, can influence social behaviour towards desired decision-making patterns. This paper, based on presentations given at the Boma COVID-19 Summit and the held in March 2020, will discuss the impacts of artificial intelligence and its capacity to spread information and misinformation during a global crisis. It shall be the objective of this paper to demonstrate the ability of AI to exploit cognitive biases which can increase levels of polarization, racism, and also influence rates of response to global pandemics. The paper will also focus on Africa and the challenges faced in ensuring that people are given accurate and timeous information in a region that still faces challenges in connectivity.

Key Words

COVID-19, Coronavirus, Artificial Intelligence, Misinformation, Africa

Introduction

The emergence of COVID-19 in December 2019, a strain of the Corona group of respiratory viruses, has seen a multitude of governments, institutions, organizations, and schools throughout the world resorting to the use of artificial intelligence (AI) as the primary means of disseminating information, conducting business, and continuing education. Social distancing has also seen technology becoming an even more essential tool for day-to-day communication as the world embraces the "going digital" movement. In light of the global threat that COVID-19 poses to global health and security, the Boma COVID-19 Summit was held in March 2020 through a series of online webinars that brought together over 60 leading thinkers across a spectrum of areas of expertise, from over 20 countries and 5 continents, to discuss the varying socio-economic, health and political aspects of the virus. Topics ranging from state-level preparedness and response rate, on-going research on vaccination, innovative fundraising initiatives, dealing with isolation from a mental health perspective, and e-learning for students were discussed at great length and depth. Also on the agenda was the role of artificial intelligence in the dissemination of information, and how this impacts the global cognitive response to the virus, its origins and its effects.

This paper will focus on this latter aspect of COVID-19 by interlinking the pertinent arguments presented primarily by De Kai, AI professor and Google AI ethics council member and Nivi Sharma, Chief Operating Officer for BRCK a tech-solutions company in Nairobi, and supported by Mazda Adli, Chair of the Fliedner Klinik Berlin Centre for Psychiatry, Dr. Duncan Rozario, medical director of the Oakville Virtual Care Program, Ryan Merkley, chief of staff of Wikimedia, Toronto, Canada, among many others.

Methodology

The paper employs a desk review approach to provide contemporary information regarding the state of COVID-19 on a global scale. It further draws on the insights from panellists of the Boma COVID-19 Global Summit to provide a wide range of perspectives and insight. The paper focuses more on the social media interpretation of artificial intelligence but acknowledges the wider application of the term and its far reaching capabilities as a tool for communication and cognitive manipulation.

The COVID-19 Epidemic – A New World

Kevin Johnson and Ryan Markeley, during the Canada Session of the Boma Conference, both highlighted that we are living a "new world," one characterised by unprecedented global isolationism, disinformation, uncontrollable and unpredictable market fluctuations, and mental stress issues, all compounded by the latest strain of the coronavirus. Originally emerging in Wuhan, China in November 2019, the COVID-19 virus was officially declared a global pandemic in March 2020 by the World Health Organization (WHO) (Ducharme 2020). Ironically, WHO would declare in March 2020 that Europe, in particular Spain and Italy, was the epicentre of the virus as they were the hardest hit regions in the world (Minder 2020). As of the end of March 2020, cases of COVID-19 were reported in 184 of the 195 United Nation countries, prompting the multilateral institution's secretary general, Antonio Guterres (via virtual interview) to call for a global ceasefire of all global conflicts so as to fight the virus collectively (Bayes 2020). During the Boma Summit, Steve Joordens, professor of psychology at the University of Toronto added that at this time, mental health becomes a crucial element of survival. During a time of incessant media coverage surrounding the virus, stress levels can be overwhelming and ultimately lead to mental and physical health complications compounded by the isolation and the fear of the unknown. That is, when will this end? During the Berlin session, Mazda Adli, chair of the Fliedner Klinik Berlin Centre for Psychiatry, spoke about emotional contagion, referring to the ability of people to spread their emotional state (much like the virus itself) to others. Fear, he added, spreads much more effectively as it triggers the human mind's defence mechanisms and survival instincts. Joordens adds that at such a critical junction, there is need to practice active, "mental hygiene" which will allow individuals to effectively and safely navigate this new and unfamiliar world. As such, the virus presents a

myriad of challenges beyond the obvious health risks, and presents the leaders of this "New World" with challenges yet to be experienced by this generation.

Further compounding the ability of the people of the new world to cope and acclimate is the element of artificial intelligence (AI) as a primary modem of communication, education, business, and entertainment. During the Japan session of the Boma Summit, De Kai, AI professor and Google AI ethics council member, highlighted that AI has a significant role to play in overcoming the COVID-19 pandemic. Its ubiquity and accessibility make in an invaluable tool in disseminating critical information that has the ability to save lives and influence positive social behaviour. This, alone, makes this global threat unique and adds to the new world perspective as technology has never played such a prominent role in the fight against a global health and security risk. However, that same ability to disseminate information rapidly and influence behaviour is also the greatest weakness of AI as agents can take advantage of the various platforms created to disseminate incorrect and misleading information toward their own gain.

Artificial Intelligence and COVID-19

According to De Kai, AI professor and Google AI ethics council member, AI is playing a significant role in the narrative of the COVID-19 pandemic as it serves as a vehicle for influencing behaviour. The professor highlighted that the packaging of the virus, take for example the labelling of the virus as the "Chinese Virus," triggers preconceived notions and beliefs of particular groups of people. Such notions and beliefs cause polarisation, create conspiracy theories and promote racism in the global space. Such communication also creates a form of resistance to act in accordance with the associated dangers of the virus. This was seen in the COVDI-19 epicentre, Europe, where there was initial resistance to cease major sporting events, concerts and other public gatherings. In Africa, AI and its message of the "Chinese Virus" or the "Chinese Problem" coupled with the relatively slow progression of the virus to the continent, led to speculation and dissemination of the possibility of Africans being immune to the disease. During the Canadian Session of the Conference, Chief of Staff for Wikimedia, a non-profit organisation which seeks to develop and maintain open, free, and easy to access content by supporting Wikipedia and its subsidiaries, stated that it is essential that distributors of information like Wikimedia disseminate material in a productive, positive and accountable manner. De Kai, during the Japan Session of the Boma Conference, added that the solution to this process of fact checking so as to ensure the safety of the general public from exploitation lies within the problem itself. Essentially, AI is the solution to AI. There is need to create AIs that can find these negative AI-driven sources of disinformation and stop them from contaminating the discourse on COVID-19.

The reference of COVID-19 as the "Chinese Problem" has also fuelled political reactions to the global crises, with American president Donald Trump repeatedly using the term to refer to the virus during public press conference and via social media. This serves to promote the negative stereotype, fuelling hatred and even aggressive behaviour towards people of Asian

descent. During the Germany Session of the Boma Conference, a group of Chinese researchers from the Delft University of Technology in the Netherlands posited that the fundamental reason for these underlying perceptions is a lack of cultural understanding. This lack of understanding is thus exploited by certain AI towards certain ends, be it profit making or simply to induce panic. The researchers, due to their own personal experiences and the spread of the COVID-19 virus, created an initiative though which this cultural divide could be diminished and constructive dialogue could take place. They noted that as Chinese people living in the Netherlands, they were often faced with the dichotomist challenge of either wearing a mask for a variety of reasons such as, feeling sick, not feeling attractive, or not wanting to talk, or not wearing a mask because the Dutch immediately associated that with being ill. To counter this quagmire, the researchers created stickers which would be placed on the masks to put those foreign to the mask culture at ease and to initiate dialogue regarding the utility of the masks. Through various AI platforms, the program has spread to other countries and has been adopted in Portugal, France and Spain, conveying a positive message during the crisis.

It should be noted that the existence of AI during this virus is also historic. Moreover, those who control the means of AI have a significant role to play in how a global crisis is received. As Professor De Kai aptly points out, during the swine flu pandemic, there were no references to the disease as the "American Virus." This possibly speaks more to the globalised nature of AI and how Western culture dominates the trajectory or AI driven discourse.

Africa's Challenges to Connectivity in a Global Crisis

In South Africa, the hardest hit African country by COVID-19 to date, AI has played a significant role in the dissemination of information towards fighting the spread of the disease. Through various social media platforms, chiefly Twitter and messenger application, WhatsApp, both information and misinformation has been spread about preventative measures for the virus. According to social media and tech entrepreneur, Mark Kaigwa in the Portugal / Kenya Session of the Boma Conference, an organisation in South Africa called Praekelt.org has created a WhatsApp based mobile platform through which all members in the group have access to free, accurate and timely information regarding COVID-19. According to Sguazzin, Bax & Kew (2020) the platform now has a subscription of over 2 million users and receives over 100,000 enquiries an hour. This demonstrates a positive drive and positive utilisation of AI to combat the virus. Kaigwa further provided an example of the need for political will and capacitation in the fight against misinformation as a malicious tweet about an airplane arriving from China – triggering panic and racist reactions, was quickly subdued by authorities who arrested the perpetrator to send a stern message against such actions.

However, as mentioned by Kaigwa and Nivi Sharma, the Chief Operating Officer of cloud-Wi-Fi Company, BRCK in Nairobi, not all Africans (let alone South Africans) have access to

AI and/or internet facilities. According to a Wold Bank study conducted in 2019, while approximately half of South Africans have access to internet connectivity, the rate falls to 30% in West Africa and approximately 10% in Central Africa (Mahler, Montes & Newhouse 2019). This lack of access presents a stern challenge in the dissemination of information during times on unprecedented crises. Sharma highlights that there are four (4) main reasons why connectivity levels in Africa are so low, namely, access to AI technology such as smartphones and connectivity signal, low rates of digital literacy, relevance of content to suit the local demands (language, culture, format), and lastly affordability. Sharma, through her BRCK organisation seeks to provide solutions to these challenges so as to ensure that Africans adopt the behavioural changes required to overcome COVID-19 and possibly future pandemics that may occur. BRCK, as such, has created platforms through Public Service Announcements (PSAs) which are sent directly to smartphones using a variety of languages and formats to ensure as many Kenyans receive helpful COVD-19 suggestions and reminders such as explaining the necessity for social distancing and practicing proper hygiene.

Conclusions

The Boma COVID-19 Global Summit came at a crucial juncture in the fight against the global pandemic. Critical areas of knowledge, personal expertise and experience were amalgamated to produce possible solutions and best practices towards the alleviation of the virus. A common, discernable theme that emerged from the Summit was the crucial role that artificial intelligence plays in the spreading of vital information to global citizens and vulnerable communities. Further, it was noted that misinformation may be deliberately promoted by various AIs as a means of inciting fear, promoting certain cognitive biases, and promoting behaviour that may lead to profit for particular entities. At the epicentre of the COVID-19 pandemic, AI was initially used to promote negative stereotypes against the virus which led to slow uptake of pre-emptive solutions by governments and individuals. AI also negatively impacted African preparedness as misinformation regarding the immunity of Africans was promoted. The virus has also reinvigorated the call for wider and more affordable access to AI for Africans who still lag behind globally in the pursuit of pertinent, accurate and timely knowledge.

References:

Adli, M. (2020). Presentation Quarantine anxiety: coping with the stress of isolation. *Boma COVID-19 Conference – Japan Session*

Bayes, J. (2020). UN chief calls for global ceasefire to help fight COVID-19, *Aljazeera*, 23 March 2020, Retrieved from https://www.aljazeera.com/news/2020/03/chief-calls-global-ceasefire-fight-covid-19-200323190330845.html, 25 March

De, K. (2020). Presentation: The disastrous consequences of information disorder erupting around COVID-19: AI (2020). *Boma COVID-19 Conference – Japan Session*

Ducharme, J. (2020). World Health Organization Declares COVID-19 a 'Pandemic.' Here's What That Means, *Time Magazine*, 11 March, Retrieved from https://time.com/5791661/who-coronavirus-pandemic-declaration/, 25 March

Johnson, K. (2020). Presentation. *Boma COVID-19 Conference – Canada Plenary Session*

Joordens, S. (2020). Presentation. *Boma COVID-19 Conference – Canada Plenary Session*

Kaigwa, M. (2020). Presentation COVID-19: Artificial Intelligence. *Boma COVID-19 Conference – Portugal / Kenya Session*

Mahler, D. G., Montes, J., & Newhouse, D. (2019). Internet Access in Sub-Saharan Africa. *World Bank Group: Poverty and Equity Notes* No. 13

Merkley, R. (2020). Presentation. *Boma COVID-19 Conference – Canada Plenary Session*

Minder, R. (2020). Spain Becomes Latest Epicentre of Coronavirus After a Faltering Response, *The New York Times*, 11 March, Retrieved from https://www.nytimes.com/2020/03/13/world/europe/spain-coronavirus-emergency.html, 25 March

Moss X Team (2020). Presentation: Mask stickers: fighting discrimination through humour. *Boma COVID-19 Conference – Germany Session*

Rozario, D. (2020). Presentation. *Boma COVID-19 Conference – Canada Plenary Session*

Sguazzin, A., Bax P., & Kew J. (2020). Hit by HIV, South Africa Deploys WhatsApp to Fight Virus, *Bloomberg*, 23 March, Retrieved from https://www.bloomberg.com/news/articles/2020-03-23/whatsapp-deployed-as-aids-tb-raise-s-africa-s-coronavirus-risk, 25 March 2020

Sharma, N. (2020). Presentation COVID-19: AI (2020). *Boma COVID-19 Conference – Portugal / Kenya Session*