The influence of Artificial Intelligence on the fairness and security of elections in 2024: risks and mitigations strategies

Technology is interwoven into the fabric of society, with the impact of Artificial Intelligence (AI) a growing reality in everyday life, never more so than on the electoral process. In 2024, nearly half of the global population, ~four billion people, would have voted to elect their political leaders (The Economist, 2024). Approximately a third of the voters rely on social media platforms as their primary source of political news (Barrett et al., 2024). This statistic emphasises the potential risks arising from using AI tools in elections, influencing not only voters but also politicians, campaigners, and regulators.

One could argue, AI by itself should have a lesser impact on elections – primarily, analysing data and making predictions, however Generative AI has the potential for a much larger influence on election outcomes. Initially, AI's computational power doubled every two years, aligning with Moore's Law, but since 2012, this computational power is doubling every 3.4 months (Saran, 2019). This steep rise, often represented as a "hockey stick" curve, demonstrates AI's potential to transform elections through tactics like targeted messaging, advertisement, and information distribution (Werner, 2024).

AI-driven tools could help voters assess well thought-out perspectives on candidates and political problems, promoting a more informed electorate. Responsible and clearly defined usage of AI could support democratic processes without compromising their validity. Despite these benefits, integrating AI into elections presents considerable challenges. One mitigation strategy is to develop a detailed approach to tackle disinformation and mitigate harmful online content, for example, the World Economic Forum setup the Global Coalition for Digital Safety. Collaboration on online safety regulations and digital media literacy will further support responsible user trust on AI development and usage, and innovation to address these challenges (World Economic Forum, 2024).

Impact on Election Campaigns

AI-powered algorithms can analyse significantly vast amounts of data, allowing campaigns to target demographics to influence voter behaviours (Zhu and Isaacs, 2024). This approach could enhance voter engagement, but also carries the risk of deceptive influence. AI algorithms can be biased (Ashok, 2024), creating echo chambers where voters are repeatedly exposed to content reinforcing their existing beliefs (Alatawi, 2021).

Impact of AI Bias and Ethical considerations on Voter's Trust and Security

AI's role extends beyond campaign, to the analysis of polling data and election outcomes. With real-time information, AI algorithms could come up with a prediction of an event occurring when it is unlikely to happen, introducing ethical considerations (Ashok et al., 2022), in turn impacting voter confidence and the validity of elections.

AI-driven content is heavily reliant on the training data and learning models. Bias in data will cause biased outputs, which in turn impacts trust of the users of that data. In the context of impact of AI on bias in elections, Overton (2024, abstract) argues “Left unchecked, AI will exacerbate already substantial existing challenges, such as racial polarization, cultural anxiety, antidemocratic attitudes, racial vote dilution, and voter suppression”.

AI systems could target electronic voting machines and election infrastructure, thus creating a security and integrity challenge for regulators (Yu, 2024). One recommendation could be to regularly check the voting systems and infrastructure for security issues.

Impact of AI-generated Deepfake on elections

Before recent European Union elections, European Parliament parties signed a non-binding Elections Code of Conduct, pledging not to use deceptive AI-generated content in campaigns. However, parties in some European countries like France, Italy and Ireland violated this code, posting AI-generated images with troublesome storylines on controversial topics like immigration and globalisation (Stockwell, 2024). Many of these images were deceptive to the untrained eye and emotionally charged, designed to mislead and induce strong reactions. Although there was no evidence of significant AI misuse in the UK and EU elections (Dennehy, 2024), the MIT Technology Review identified 27 troubling cases of deepfakes in the UK, EU and French elections (Heikkilä, 2024). This problem has become so great, that 20 large tech companies like Amazon, Google, Meta, Microsoft and OpenAI pledged to push back against deadly deepfakes (Hodgson, 2024). Despite these commitments, earlier this year, Donald Trump posted a deepfake video of Taylor Swift, in which the star endorsed Trump. This quickly created an outrage causing the star to support Kamala Harris and running mate Tim Walz instead, presenting the power of deepfakes and how easily they can affect both the public and celebrities (Spring, 2024). In the 2024 elections and beyond, these technologies could be used to sway voters for or against certain political parties or candidates.

AI could serve as both a positive force and a tool for harmful activities. While AI has the potential to improve electoral processes, it may also reinforce negative behaviours. Experts caution against solely blaming AI for current threats, noting that technology has always presented societal challenges. Though neutral in nature, technology’s effects depend on its applications.

AI’s influence extends beyond elections, affecting the democratic process. The use of AI-generated content risks amplifying pre-existing social issues like political polarisation and echo chambers, where the line between fact and fiction blurs (Overton, 2024). Although recent election-related AI misuse was limited, undetected content likely exists, highlighting the difficulty in identifying AI-driven manipulation.

Conclusion

AI's expanding role in elections brings both advantages and challenges across ethical, social, and technological dimensions. On one hand, AI offers powerful tools for reaching more voters and delivering accurate, relevant information in real time. However, without careful regulation and oversight, AI can also contribute to the spread of misinformation and reinforce echo chambers, potentially undermining democratic goals. As AI continues to advance, mitigation strategies must prioritise transparency and responsible reporting, and a considered approach to AI regulation. Collaboration on online safety policies and enhanced digital media literacy could counteract AI's potential negative impact on elections. Regular review of voting systems and infrastructure will increase the security and integrity of elections. Finally, it's essential to find the right balance between embracing AI's potential and addressing concerns over its influence on electoral fairness and security.

Bibliography

Alatawi, F., Cheng, L., Tahir, A., Karami, M., Jiang, B., Black, T. and Liu, H., 2021. A survey on echo chambers on social media: Description, detection and mitigation. arXiv preprint arXiv:2112.05084.

Ashok, M., 2024. Written evidence: use of artificial intelligence in government. Public Accounts Committee, UK Parliament. AIG0013. Available from https://committees.parliament.uk/work/8367/use-of-artificial-intelligence-in-government/publications/written-evidence/?page=2 (Accessed on 2 Nov 2024)

Ashok, M., Madan, R., Joha, A. and Sivarajah, U., 2022. Ethical framework for Artificial Intelligence and Digital technologies. International Journal of Information Management, 62, p.102433.

Barrett, P. M., Richard-Carvajal, C. and Hendrix, J., 2024. Digital Risks to the 2024 Elections: Safeguarding Democracy in an Era of Disinformation. NYU Stern Report, Center for Business and Human Rights. Feb 2024. Available from https://bhr.stern.nyu.edu/publication/digital-risks-to-the-2024-elections-safeguarding-democracy-in-the-era-of-disinformation/ (Accessed on 18 Oct 2024)

Dennehy, F., 2024. No evidence that AI disinformation or deepfakes impacted UK, French or European elections results. The Alan Turing Institute. Available from https://www.turing.ac.uk/news/no-evidence-ai-disinformation-or-deepfakes-impacted-uk-french-or-european-elections-results (Accessed on 29 Oct 2024)

Heikkilä, M. 2024. AI-generated content doesn't seem to have swayed recent European elections. The MIT Technology Review. Available from https://www.technologyreview.com/2024/09/18/1104178/ai-generated-content-doesnt-seem-to-have-swayed-recent-european-elections/ (Accessed on 2 Nov 2024)

Hodgson, C. 2024. World's biggest tech companies pledge to fight AI-created election 'deepfakes'. Financial Times. Available from https://www.ft.com/content/8dcbc162-a0f5-47ce-a2ea-5fb25cb160c5 (Accessed on 3 Nov 2024)

Overton, S. 2024. Overcoming Racial Harms to Democracy from Artificial Intelligence (March 4, 2024). Iowa Law Review, Forthcoming, GWU Legal Studies Research Paper No. 2024-25, GWU Law School Public Law Research Paper No. 2024-25, Available from https://ssrn.com/abstract=4754903 (Accessed on 2 Nov 2024)

Saran, C., 2019. Stanford University finds that AI is outpacing Moore's Law. Dec 2019. Available from https://www.computerweekly.com/news/252475371/Stanford-University-finds-that-AI-is-outpacing-Moores-Law (Accessed on 29 Oct 2024)

Spring, M., 2024. What impact could Taylor Swift really have on the US election? BBC. Available from https://www.bbc.co.uk/news/articles/cy4d3y0kl4eo (Accessed on 4 Nov 2024)

Stockwell, S. 2024. AI-Enabled Influence Operations: Threat Analysis of the 2024 UK and European Elections. CETaS Briefing Papers – the Alan Turing Institute. Available from https://cetas.turing.ac.uk/publications/ai-enabled-influence-operations-threat-analysis-2024-uk-and-european-elections (Accessed on 19 Oct 2024)

The Economist, 2024. 2024 is a giant test of nerves for democracy. Feb 2024. Available from https://www.economist.com/international/2024/02/11/2024-is-a-giant-test-of-nerves-for-democracy (Accessed on 30 Oct 2024)

Werner, J. 2024. Exponential AI? Another Look At Tech Advances In Our Time. Forbes. Available from https://www.forbes.com/sites/johnwerner/2024/03/30/exponential-ai-another-look-at-tech-advances-in-our-time/ (Accessed on 1 Nov 2024)

World Economic Forum, 2024. Principles for the Future of Responsible Media in the Era of AI. White Paper available from https://www.weforum.org/publications/principles-for-the-future-of-responsible-media-in-the-era-of-ai/ (Accessed on 29 Oct 2024)

Zhu, J. and Isaacs, R., 2024. Campaign microtargeting and AI can jeopardize democracy. LSE blogs. Available from https://blogs.lse.ac.uk/politicsandpolicy/campaign-microtargeting-and-ai-can-jeopardize-democracy/ (Accessed on 30 Oct 2024)