<center>**AI Use in Electoral Contexts: Evidence-Based Findings**</center>

<center>**By Grahm Tuohy-Gaydos**</center>

Introduction

With the expanding strength and scope of artificial intelligence (AI) use across a variety of contexts, there are understandably increased concerns about the potentialities that this use may pose with democratically held context elections. Articles detailing the 'threat' of AI are commonplace[1] and government officials within the Biden Administration have noted how artificial intelligence will be able to serve as "more powerful weapons for the strongest governments on Earth as they engage one another in a combustible geopolitical competition."[2] The nature of these concerns are understandable given the inherent capabilities of AI systems, and especially generative AI (GenAI), which is able to produce high-quality text, images, and audio efficiently with ever increasing accuracy and specificity.

The challenge with rushing to these conclusions is that they have often lacked evidence of both use and impact. While much has been written about the *potentialities* of AI use in the electoral context, much less has been written about its *actual* use let alone any outright impact it has had. This challenge is partly understandable—the deployment of advanced AI tools has only begun recently—but it has become a lightning rod of concern for political parties, the media and the public at large. With the incredible support provided by the Williams Class of 1945 World Fellowship, I was able to spend nine weeks in the United Kingdom exploring the impact of AI

---

[1] Vittoria Elliott, "The WIRED AI Elections Project," *Wired*, accessed July 1, 2024, https://www.wired.com/story/generative-ai-global-elections/; Jen Easterly, Scott Schwab, and Cait Conley, "Artificial Intelligence's Threat to Democracy," *Foreign Affairs*, January 3, 2024, https://www.foreignaffairs.com/united-states/artificial-intelligences-threat-democracy; Nick Robins-Early, "Disinformation Reimagined: How AI Could Erode Democracy in the 2024 US Elections," *The Guardian*, July 19, 2023, sec. US news, https://www.theguardian.com/us-news/2023/jul/19/ai-generated-disinformation-us-elections.

[2] Ben Buchanan and Andrew Imbrie, *The New Fire: War, Peace, and Democracy in the Age of AI* (Bloomington: MIT Press, 2022), p. 2.

in-depth and gather more substantive information on its use in electoral contexts, helping to increase awareness within the public sector of the potentialities of AI use.

More specifically, my research this summer sought to provide a clear overview of how AI is being deployed within elections by electoral management bodies, political campaigns, and non-state and state-adjacent actors, considering applications both within and outside of the public sector. With the support of staff within the Oxford Internet Institute at Oxford University and the Monitoring, Evaluation, and Learning (MEL) team at Westminster Foundation for Democracy, I began my efforts in late June, culminating in a final report for Westminster Foundation for Democracy that will be published in September.

The following sections will provide a brief overview of artificial intelligence and my findings regarding AI deployment across a variety of use cases. This report will then consider the broader general findings of my efforts before returning to a review of my experiences and their contribution to both my own learning and future study within this field.

A Brief Overview of AI Systems

There is no universally accepted definition of artificial intelligence.[3] This lack of definitional agreement has made both governance and clarificatory efforts a challenge for invested parties and regulators alike. Many of the core characteristics of what would normally be classified as 'AI'—neural networks, supervised learning, and reliance on large data sets—are also descriptive of the algorithms which underline platforms like Google and Facebook.[4] This in turn poses a

---

[3] Concettina Cassa et al., "Strengthening Multistakeholder Approach to Global AI Governance, Protecting the Environment and Human Rights in the Era of Generative AI," IGF POLICY NETWORK ON ARTIFICIAL INTELLIGENCE (Internet Governance Forum, October 2023), https://www.intgovforum.org/en/filedepot_download/282/26545, p. 1.
[4] Wolfgang Hoffmann-Riem, "Artificial Intelligence as a Challenge for Law and Regulation," in Regulating Artificial Intelligence, ed. Thomas Wischmeyer and Timo Rademacher (Cham: Springer International Publishing, 2020), 1–29, https://doi.org/10.1007/978-3-030-32361-5_1, p. 2.

challenge to integratory and regulatory efforts, which as a result have turned towards novel typological methods when drafting governance on AI.

The Organisation for Economic Co-operation and Development (OECD) has led the most notable effort to define AI, establishing a multi-year working group on the subject. The OECD's definition classifies AI as:

> A machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment. [5]

While the OECD definition is widely accepted[6], it remains relatively broad and captures a wide array of technologies. As such, many organisations have taken the OECD's definition as a framework to build off.[7] The OECD itself has argued for such an approach, urging for additional methodologies by which to classify AI systems.

Discriminative vs. Generative AI

A popular method to differentiate between specific AI systems within the OECD definition is to consider whether the system is discriminative or generative. Given a set of data, generative models use statistical techniques and pattern recognition to produce an outcome that would otherwise fit within the given data.[8] By contrast, a discriminative model is able to identify between data types and clarify additional patterns.[9]

---

[5] "Explanatory Memorandum on the Updated OECD Definition of an AI System," OECD Artificial Intelligence Papers, vol. 8, OECD Artificial Intelligence Papers, December 19, 2023, https://doi.org/10.1787/623da898-en.
[6] Organisation for Economic Co-operation and Development, "Governments That Have Committed to the AI Principles," July 2024, https://oecd.ai/en/principles.
[7] See Cassa et al., 2023, p. 1 and Council of the European Union, "Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL Laying down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act)," Pub. L. No. ST_7536_2024_INIT (2024).
[8] Committee on Digital Economy Policy, 2022, p. 45.
[9] Google Staff, "Background: What Is a Generative Model?," Google for Developers, accessed August 4, 2024, https://developers.google.com/machine-learning/gan/generative.

While still a simplified framework, the distinction between discriminative and generative artificial intelligence is a useful one and captures the array of technologies and applications which could be popularly classified as 'AI'. Importantly, the differentiation between generative and discriminative models directly identifies and incorporates analysis of the generative tools which have captured public consciousness while ensuring equal emphasis on discriminative tools. While insufficiently specific when defining AI systems, the generative vs. discriminative framework is a necessary one when considering artificial intelligence use in the electoral context.

The Ladder Approach vs. The Matrix Approach

While the prior approach largely attempts to establish a dichotomy *between* models, the complexity of many AI systems and their nature as 'black boxes' into which stakeholders cannot see has complicated such attempts. Regulators and other institutions have as a result pursued different means by which to categorize such systems. The outcome is what Mökander et al. have described as either the 'ladder' approach or the 'matrix approach'.[10]

The ladder approach typically eschews analysis of the system itself as a method of classification in favour of an outcome-oriented approach. Drawing from the burgeoning field of AI ethics, the approach emphasises the *potential* of a specific model to cause harm and the *severity* of its impact.[11] Regulators then classify systems according to different levels of risk (the 'rungs' of the ladder).[12] This risk-based methodology has quickly gained influence, especially within Europe, where the European Parliament utilised it within its Artificial Intelligence Act.[13] Matrix-centred approaches, by contrast, utilise multiple dimensions to classify AI systems,

---

[10] Mökander et al., 2022, p. 235.
[11] Mökander et al., 2022, p. 235.
[12] Mökander et al., 2022, p. 237.
[13] Council of the European Union, "Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL Laying down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act)," Pub. L. No. ST_7536_2024_INIT (2024), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CONSIL%3AST_7536_2024_INIT&qid=1716971248813.

allowing for the consideration of many factors that may not be captured in a technical or risk-based definition. These may include but are not limited to certain social or ethical implications. More than simply determining what AI *is* or *isn't*, multi-dimensional approaches can, "also help organisations identify which precautionary measures are appropriate when designing or implementing a specific AI system."[14] Furthermore, matrix-based methodologies offer both specificity and broadness, allowing regulators and invested parties to consider shared risks and concerns across a variety of contexts while preserving specificity in others where considerations may differ.[15]

There are many matrix-based methodologies which have already seen development. The OECD model classifies AI along five dimensions: people and planet, economic context, data and input, AI model, and task and output. Across each dimension, there are additional criteria by which to analyse and classify a specific system, adding to 37 in total.[16] The Centre for Security and Emerging Technology (CSET), meanwhile, utilised four core dimensions in a comparison effort of dimensional frameworks: context, input, model, and output. The CSET matrix contained nine criteria in total and was found to exhibit a higher rate of consistent classification across all dimensions compared to frameworks with less.[17] Straub et al., by comparison, use another framework with broader dimensions to classify AI systems specifically in government: operational fitness, epistemic completeness, and normative salience. Internally, Straub et al.'s

[14] Mökander et al., 2022, p. 241.
[15] OECD, "OECD Framework for the Classification of AI Systems" (Paris: OECD, February 22, 2022), https://doi.org/10.1787/cb6d9eca-en, p. 3.
[16] A chart of both the dimensions and specific criteria can be found on page 18 of the OECD Framework for the classification of AI Systems.
[17] Center for Security and Emerging Technology and Catherine Aiken, "Classifying AI Systems" (Center for Security and Emerging Technology, November 2021), https://doi.org/10.51593/20200025, p. 26.

model utilises a quasi-ladder-based methodology, classifying AI systems on one of three levels.[18] This points to the flexibility exhibited by multi-dimensional frameworks.

While by no means a perfect solution, the matrix approach offers enormous benefits compared to other classification methods. As such, it is advisable to consider AI use through a multi-contextual lens, including technical, socio-political, and impact-based factors in any consideration of specific AI systems.

AI Use in Electoral Contexts: A Brief Overview

Given increased interest in the subject area, this section outlines current applications of AI across a variety of contexts. It focuses specifically on data classification, monitoring, user engagement, content generation, and microtargeting. It will conclude with a limited discussion of additional risks identified which are not connected to a specific use case or which were of pertinence to the discussion at hand.

Data Classification. AI represents a useful tool for electoral management bodies, capable of completing many otherwise menial or repetitive tasks. International IDEA, for example, notes that AI is "particularly well suited" for voter list management, as well as records matching on behalf of voters.[19] AI systems may also be able to assist in classifying qualitative information on polling place incidents, providing additional assistance to polling watch organisations or electoral management bodies.[20]

Monitoring Systems. AI is already used extensively within monitoring systems in the electoral context. Most biometric tools utilise deep learning algorithms, as do signature matching tools.[21] Similarly, AI is also being used to assist in election monitoring. The UNDP is developing

---

[18] Straub et al., 2022, p. 16.
[19] Juneja, 2024, p. 15.
[20] Juneja, 2024, p. 27.
[21] Juneja, 2024, p. 16.

iVerify, a set of open-source tools to track mal-information and hate speech on social media which can then be directly countered by local partners.[22] Private companies have also begun to develop similar technologies, with social media monitoring representing an emerging market class for political parties and other stakeholders.[23] The African Union Development Agency reports that AI has also been utilised in Kenya and South Africa to monitor elections for potential abuse.[24]

Chatbot and Engagement Tools. There has been some discussion in popular media of utilising chatbots to inform voters and provide accessible sources of information, but no actionable use cases were identified in this study. Political parties have deployed such technologies in limited capacities, and research has shown positive outcomes for chatbot architectures for senior citizens and first-time voters seeking information on electoral information, polling place locations, and beyond.[25]

Content Generation. While not utilised by electoral management bodies in a publicized capacity, content generation by political parties and outside groups or persons remains a key concern. For example, GenAI played a prominent role in the Indonesian elections, where Prabowo Subianto utilised an AI-generated cartoon version of himself to soften his reputation and record of human rights abuses.[26]

Similarly, deep fakes—realistic video and audio artificially produced by an AI model— were used heavily within the 2024 Indian Elections. Deep fake usage included audio-realistic

---

[22] International Telecommunication Union, 2023, p. 123.

[23] Juneja, 2024, p. 23

[24] AUDA-NEPAD, "Harnessing Artificial Intelligence (AI) for Transparent Elections: A New Dawn for African Democracy," June 20, 2024, https://www.nepad.org/blog/harnessing-artificial-intelligence-ai-transparent-elections-new-dawn-african-democracy; Patrick Meier, "Artificial Intelligence for Monitoring Elections (AIME)," LinkedIn, April 14, 2015, https://www.linkedin.com/pulse/artificial-intelligence-monitoring-elections-aime-patrick-meier/.

[25] Juenja, 2024, p. 21.

[26] Kat Duffy, "AI in Context: Indonesian Elections Challenge GenAI Policies," *Council on Foreign Relations* (blog), February 13, 2024, https://www.cfr.org/blog/ai-context-indonesian-elections-challenge-genai-policies.

translations of candidates, commercialised use on behalf of candidates with less resources to quickly produce advertisements, and even the 'resurrection' of past political figures for their endorsement.[27] Non-state and state-adjacent actors have also begun to utilise GenAI, and especially deep fakes, to impact elections.[28] Many other uses of GenAI have been noted in these above strains, and organisations such as *Wired* and the *AI Incident Database* are attempting to agglomerate cases of use and misuse within the electoral context.

   Microtargeting. The practice of microtargeting is another arena of AI use within elections with considerable potential. Microtargeting, which, "involves deducing psychological attributes that are not readily observable, such as personality traits, from individuals' online behaviour and personal data . . . to craft highly personalized messages tailored to each individual,"[29] is by no means a new development, first gaining prominence in 2016 during the U.S. Presidential Election. Simchon et al. have released recent findings that demonstrate that this personalised messaging can be effective, and note that the combination of microtargeting techniques with GenAI may allow campaigns and political parties to produce more specific advertising at a far greater scale than possible in prior elections.[30] The use of AI-powered microtargeting algorithms alongside GenAI also represents a potentially cheaper campaign tool for smaller parties and organisations, and can act as an equaliser given that much of the underlying technology and systems behind microtargeting, as well as certain forms of GenAI like large language models and deep fakes, are otherwise free or open-source.[31] Given its prior use and the potential upside of its

---

[27] Nilesh Christopher, "Indian Voters Are Being Bombarded With Millions of Deepfakes. Political Candidates Approve," *Wired*, May 28, 2024, https://www.wired.com/story/indian-elections-ai-deepfakes/.

[28] Daniel Atherton, "Incident Number 573," ed. Daniel Atherton, *AI Incident Database*, 2023, https://incidentdatabase.ai/cite/573.

[29] Almog Simchon, Matthew Edwards, and Stephan Lewandowsky, "The Persuasive Effects of Political Microtargeting in the Age of Generative Artificial Intelligence," *PNAS Nexus* 3, no. 2 (February 1, 2024): pgae035, https://doi.org/10.1093/pnasnexus/pgae035, p. 1.

[30] Simchon, Edwards, and Lewandowsky, 2024, pp. 2-3.

[31] Bernard Siman, "Emerging Hybrid Threats: AI And Microtargeting Disinformation As A Security Threat To The Protection Of International Forces," *Defence Horizon Journal*, October 2023, p. 68; Angela Busacca and Melchiorre Alberto Monaca, "Deepfake: Creation, Purpose, Risks," in *Innovations and Economic and Social Changes Due to Artificial Intelligence: The State*

uptake alongside generative technologies, microtargeting represents another area of both

opportunity and concern within the electoral setting and will require additional consideration in

the future.

    Risks. In the electoral context, States have begun utilising publicly available tools like

ChatGPT and open source technologies like deep fakes to disrupt elections in other countries,

while candidates themselves have utilised AI in ethically dubious manners.[32] Early studies have

reported that political messaging generated by ChatGPT-4 could increase issue stance support by

up to 12%,[33] while Juneja and McBride have noted that generative AI has the potential to hyper-

focus political messaging and argumentation.[34] AI has even affected political practice outside of

the context of generative content; when a video clip of a candidate in India arguing contentious

viewpoints emerged on social media, the campaign quickly moved to counter backlash by

claiming the clip was a deep fake even though it was not.[35] This points to the second-order risks

surrounding AI use; more than simply increasing mal-information in the electoral sphere, GenAI

has corrosive potential. By fostering an environment of distrust and allowing political actors to

avoid responsibility for potentially relevant actions or words, AI systems can contribute to the

of the Art, ed. Domenico Marino and Melchiorre Alberto Monaca (Cham: Springer Nature Switzerland, 2023), 55–68, https://doi.org/10.1007/978-3-031-33461-0_6, p. 56.

[32] "STOIC Hits India with 'Zero Zeno': Israeli Firm Tries to Disrupt Lok Sabha Elections; Pushed Anti-BJP, pro-Congress Content," *The Economic Times*, June 1, 2024, https://economictimes.indiatimes.com/news/elections/lok-sabha/india/stoic-hits-india-with-zero-zeno-israeli-firm-tries-to-disrupt-lok-sabha-elections-pushed-anti-bjp-pro-congress-content/articleshow/110611373.cms?from=mdr; Morgan Meaker, "Russia Is Targeting Germany With Fake Information as Europe Votes," *Wired*, accessed July 1, 2024, https://www.wired.com/story/european-union-elections-russia-germany-disinformation-campaigns/; Marianna Spring, "Sadiq Khan Says Fake AI Audio of Him Nearly Led to Serious Disorder," *BBC News*, February 13, 2024, sec. UK, https://www.bbc.com/news/uk-68146053; Morgan Meaker, "Slovakia's Election Deepfakes Show AI Is a Danger to Democracy," *Wired*, accessed July 2, 2024, https://www.wired.com/story/slovakias-election-deepfakes-show-ai-is-a-danger-to-democracy/.
[33] Kobi Hackenburg and Helen Margetts, "Evaluating the Persuasive Influence of Political Microtargeting with Large Language Models," *Proceedings of the National Academy of Sciences* 121, no. 24 (June 11, 2024): e2403116121, https://doi.org/10.1073/pnas.2403116121, p. 1.
[34] Prathm Juneja and Keegan McBride, "How Data and Artificial Intelligence Are Actually Transforming American Elections," *Oxford Internet Institute* (blog), accessed July 17, 2024, https://www.oii.ox.ac.uk/news-events/how-data-and-artificial-intelligence-are-actually-transforming-american-elections.
[35] Christopher, 2024.

erosion of institutional and social firebreaks *even when GenAI is not in use*. When it is nearly impossible to tell what is real or generated, citizens are left with little insight into what is truthful. This can produce incredible risks to core elements of democratic governance if the populace loses faith in its ability to discern accurate information.

Key Findings

1. **AI use is widespread and underreported.** Across a variety of contexts and fields, artificial intelligence has already seen deployment in the electoral space, assisting electoral management bodies, campaigns, and citizens. While many of these uses are outside of public view or relatively benign, there is an increasingly noticeable presence of GenAI use, especially by campaigns. It is likely certain use cases are underreported, especially for content and text generation.

2. **The use of more technologically capable forms of GenAI like deep fakes remain an area of concern.** While many use cases have the potential to positively impact electoral practice, powerful generative systems represent a potential threat. While it remains unclear whether deep fakes and targeted GenAI represent a novel, elevated threat from prior forms of mal-information, early applications do raise questions and point to interest among states and other actors seeking to engage in electoral interference

3. **Generative AI has already produced new forms of content and methodologies of sharing.** Clearly generated photos and videos of candidates are already being shared with a 'tongue-in-cheek' intent, with the generative aspect providing outputs with meme-like or comedic qualities.[36] As AI use becomes more widespread, especially by campaigns, it is likely that certain applications and forms of generated content will produce and/or

---

[36] CITATION NEEDED

become co-opted by certain schema. Content with a lower production quality may take on a grassroots, comedic feel in which the AI element is acknowledged and even accepted by users who explicitly and implicitly realise that the image or video they are seeing is 'fake'.

4. **The more pronounced effects of artificial intelligence are likely second-order and may be unexpected.** While there has been considerable discussion about the potential first-order impact of AI use in elections, many of its more corrosive elements—distrust, decreased buy-in, and the erosion of democratic firebreaks—are second order impacts that are of greater concern and are less easily predicted. Already, AI use is producing these effects, and it is likely that they will increase over time. In the United States, candidate Donald Trump has claimed that photos of a crowd waiting for Vice President Kamala Harris were 'A.I.'d', and candidates within India have denied the factuality of recordings of themselves by claiming they were computer-generated.[37] Together, these incidences paint a concerning picture for future levels of trust in candidates as well as visual and textual evidence which may falsely or truthfully hold governments accountable. In an ironic sense, the greatest damage produced by GenAI may not be the result of the systems themselves, but of their impact on sociocultural and political factors more broadly.

Conclusions: The Research Process in Review

While an expanded version of my findings is set to be released within a report by Westminster Foundation for Democracy in September 2024, I feel deeply indebted to the staff that I worked with at both WFD and the Oxford Internet Institute, which provided additional support for my

---

[37] Shane Goldmacher, "Trump Falsely Claims That the Crowds Seen at Harris Rallies Are Fake," *The New York Times*, August 11, 2024, sec. U.S., https://www.nytimes.com/2024/08/11/us/politics/trump-harris-crowds-ai.html; Christopher, 2024.

efforts. With their backing and guidance, I was able to meet with numerous on-the-ground experts who were able to provide me insights based on their own efforts and perceptions. My time in the UK also allowed me to network with professionals and other students exploring this subject, which provided additional resources as I navigated the research process and agglomerated sources. Without the generous funding provided by the Class of 1945 World Fellowship, I would have been unable to access countless resources that proved critical in my research and contributed to a more thoughtful, comprehensive final product.

Additionally, my time in the United Kingdom allowed me to develop a more comprehensive knowledge base regarding digital issues and AI applications. The rapid pace of deployment within the public sector has made gathering the necessary background knowledge to successfully consider AI use a challenge. My efforts this summer allowed me to wholly focus on this pursuit while gaining a more holistic picture of early research and applications within governments and campaigns. This will prove particularly contributive as I continue into my senior year, where I hope to pursue a thesis considering artificial intelligence in the context of international affairs. Most importantly, my time in the UK has been particularly inspiring, and I hope to return to the Oxford Internet Institute as a graduate student in 2025 to further develop my knowledge base and pursue a future career within this critically important sphere. My research and the end product have had a positive transformative impact on my outlook, interests, and future endeavors, and I am deeply appreciative of the support and funding I have received which made it possible.