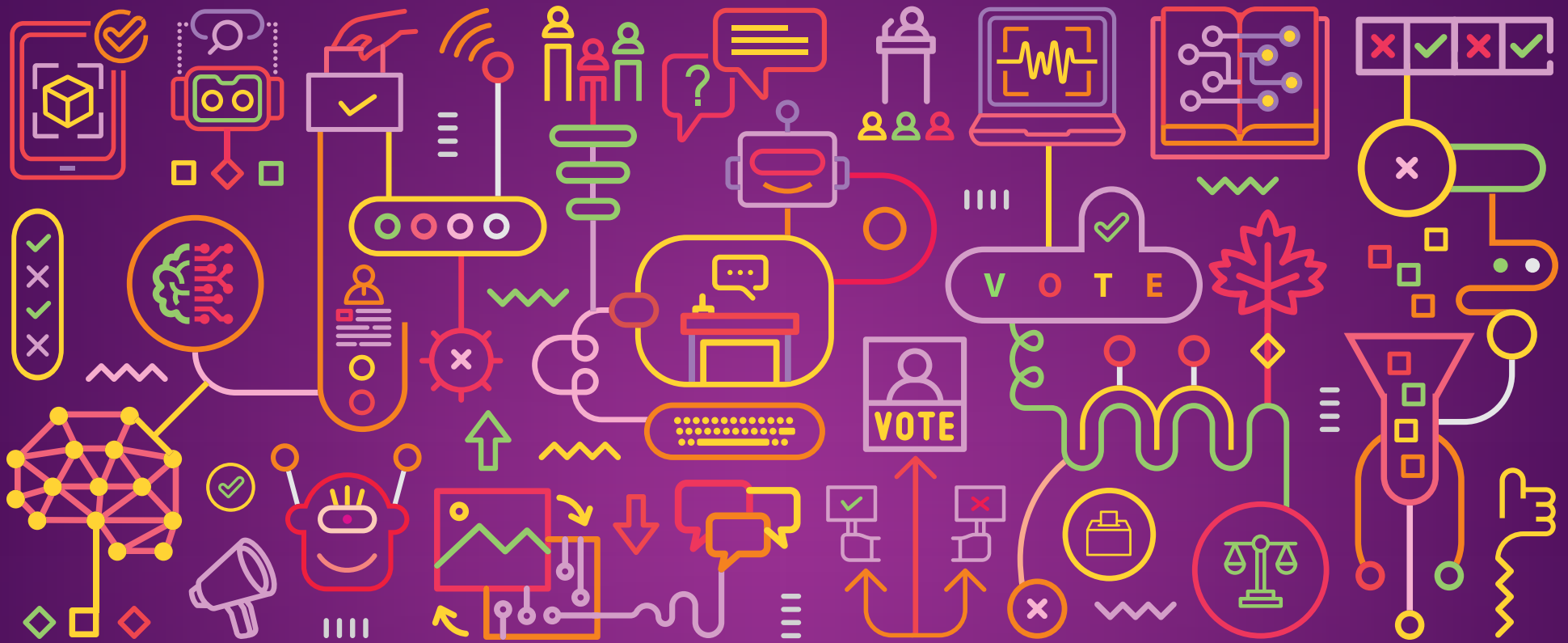# THE POLITICAL USES OF AI IN CANADA

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THE POLITICAL USES OF AI IN CANADA

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INTRODUCTION

There is a long tradition of political campaigns making use of technology to find supporters, strategically communicate their messages and win votes. From keeping track of information about potential voters while door knocking to social listening across Internet platforms, political campaigns collect and use data in important ways. As machine learning and artificial intelligence are advancing and becoming more accessible, we should expect political parties, civil society groups, and other political actors to start experimenting with these tools. In fact, they already have.

In this report we looked for key cases highlighting specific uses of AI in the Canadian political context. This includes creating synthetic content, using AI-driven tools to analyze social media posts, polling and predicting elections, targeted political advertising, and more. Our list is not exhaustive, and indeed, many applications of AI take place behind the closed doors of corporations, in the strategic war rooms of election campaigns, or are intentionally obscured making them harder to identify.
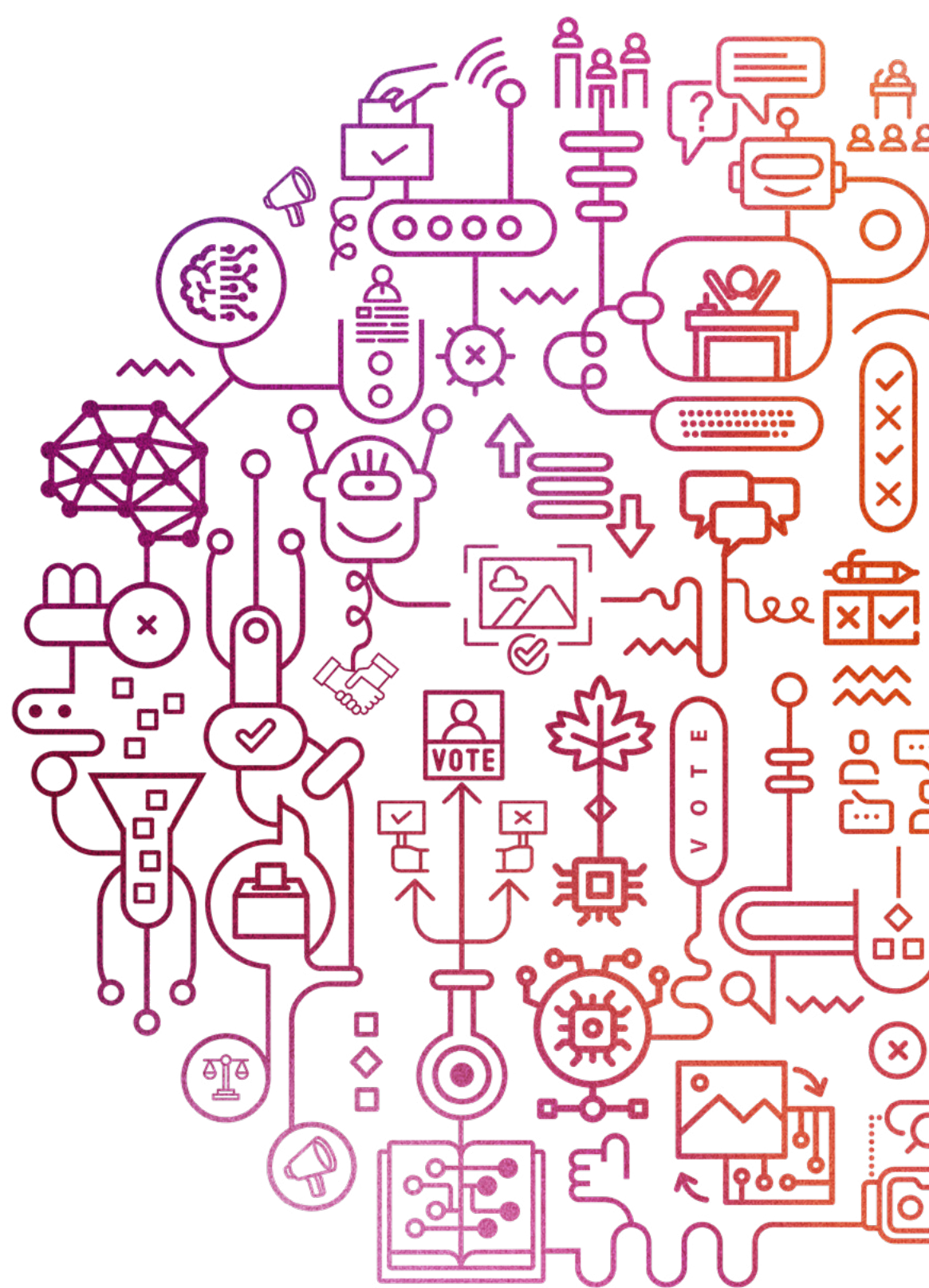
Our aim is to spark discussion and reflection on the ways AI has been and could be integrated into different phases of the election cycle.

Importantly, we are less interested in the uses of AI—how governments manage services—as there are already a number of resources investigating this context. Instead, this report attempts to better understand how AI is being applied in political processes, how Canadians' political lives are being marked by AI-enabled tools and the ways these are affecting how they make political decisions.

We hope this report can be used to find ethical ways to integrate new technologies into political practices, to identify potential pain points and challenges the uses of these technologies could present, and to explore potential response options from policy makers, tech companies, political parties, and others to reduce harms.

In this report we define AI and a series of related technologies before jumping into examples of AI use and Canada-specific examples of political use of AI during elections and outside of elections. Next, we zoom out and reflect on the critical challenges and considerations for policy makers, tech companies, academics and the wider public. At the end of the report we include a **glossary** of the technical terms used throughout the report.

This report was sparked by a panel discussion in April 2023, hosted by Dr. Elizabeth Dubois (University of Ottawa), with:

- Dr. **Samantha Bradshaw** (American University)
- Dr. **Wendy Hui Kyong Chun** (Simon Fraser University)
- Dr. **Suzie Dunn** (Dalhousie University)
- Dr. **Fenwick McKelvey** (Concordia University)
- Dr. **Wendy H. Wong** (University of British Columbia, Okanagan)

This interdisciplinary panel helped shape this report. To learn more about our contributing scholars, see the **ABOUT OUR EXPERTS** section on .

You can watch a recording of the event or listen to the audio on the Wonks and War Rooms podcast.

WATCH

LISTEN

V O T E
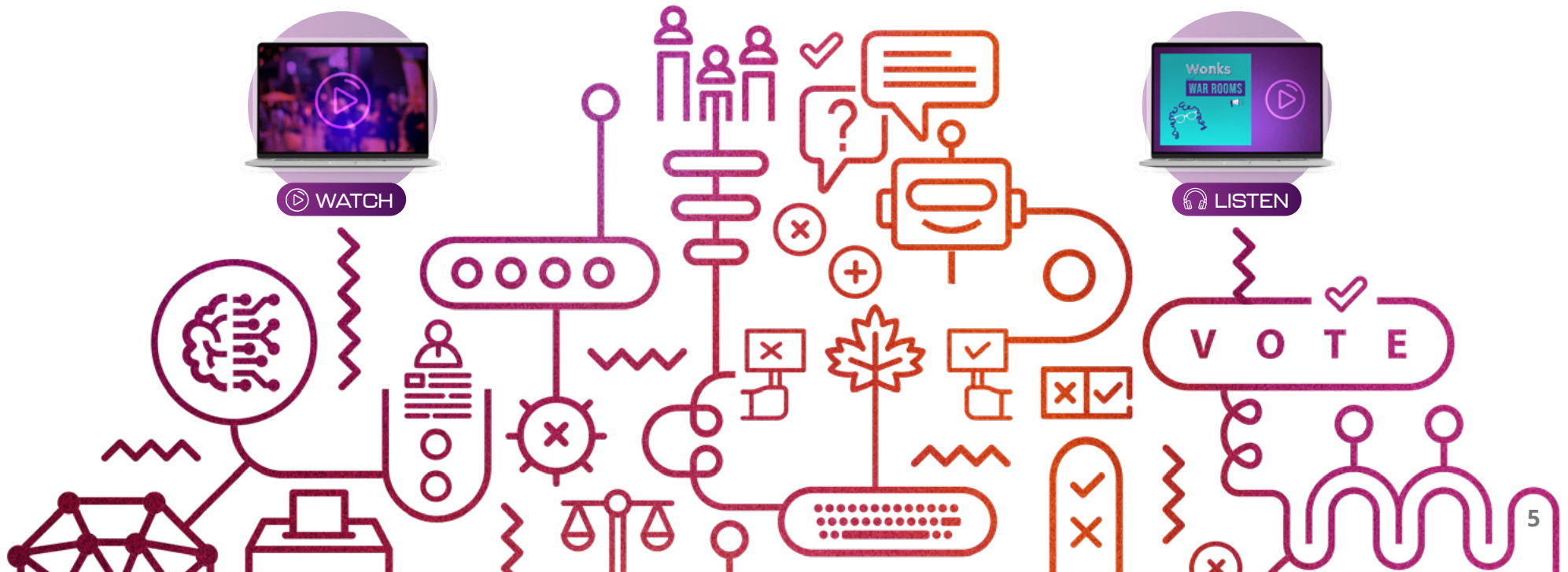
What is AI?

Discussions around artificial intelligence (AI) exploded after OpenAI's conversational agent ChatGPT was released to the public in December 2022. Google searches on the term *artificial intelligence* have remained relatively constant over the past five years, but skyrocketed by a factor of 10 beginning in October 2022 and peaking in late April 2023.

ChatGPT is a tangible example of the power of AI, which has become increasingly prevalent thanks to advances in computing combined with large and readily available datasets. Many people are already familiar with a number of AI-enabled tools: advanced search engines like Google, recommender systems within Netflix or YouTube, speech recognition like Alexa, and self-driving cars. But there is a wide range of growing possibilities when it comes to leveraging AI for political uses.

AI DEFINED IN CANADIAN LAW

"Artificial intelligence system means a technological system that, autonomously or partly autonomously, processes data related to human activities through the use of a genetic algorithm, a neural network, machine learning or another technique in order to generate content or make decisions, recommendations or predictions."

Digital Charter Implementation Act

There is a lot of discussion and media focus right now on AI, but it is not always clear what is meant when we say AI. There are many of definitions of artificial intelligence [1-3] but they mostly boil down to three main components: data, computational power, and decision making. Artificial intelligence systems are trained on vast amounts of data, use computation to analyze this data and then make decisions.

The decision-making component of AI is a key distinction. Not every **bot**, fake video or manipulated image is necessarily the product of AI-enabled tools. The determining factor is whether the technology is capable of making decisions. For example, a rules-based **chatbot** returns predetermined answers based on certain conditions, such as the use of a keyword. This does not require AI to be accomplished. A **conversational agent**, on the other hand, uses **natural language processing (NLP)**, a subfield of AI, to extract information from human language, evaluate both content and context, and choose a course of action, for example what words, sentence structure and tone to use in response. A simple rules-based chatbot returns the same answer to the same question; an AI-enabled conversational agent does not.

This means AI-enabled tools comprise a degree of uncertainty. They leverage **machine learning** and **automated decision-making** in order to get increasingly closer to accomplishing the tasks for which they were created. But they do so in ways that weren't specifically programmed. [2] AI systems are imbued with a certain amount of agency. [1] This is what makes them so powerful.
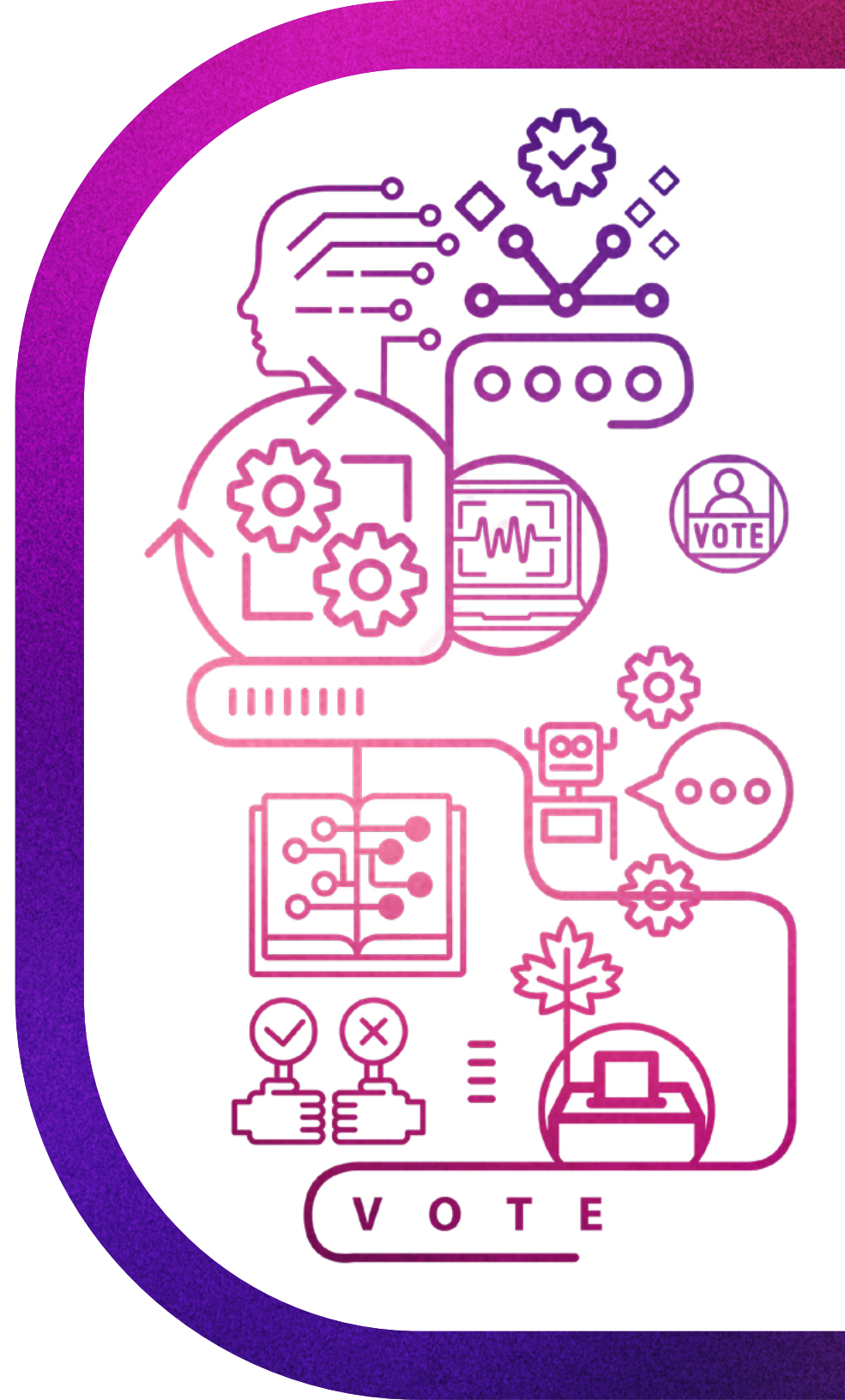
Technologies at play

The applications of AI to political contexts are underpinned by several key technologies.

Here are the ones we most frequently observe at play:
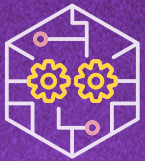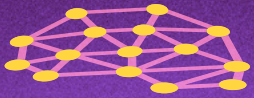
Machine learning is a branch of artificial intelligence that attempts to improve computer performance by giving machines the ability to "learn" from vast data sets. Three components of machine learning include algorithms, training data and a model. After being trained on a large set of examples known as training data, the algorithms learn to identify patterns, generating a model for making decisions. [4]
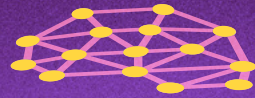
Natural language processing (NLP) is a subfield of artificial intelligence that focuses on how computers understand, process and generate human language, or natural languages, as opposed to computer code. There are a number of challenges that natural languages present in both written and spoken forms, including idioms, sarcasm, humour, plays on words, accents, dialects and slang.
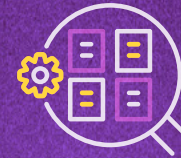
Augmented analytics is an approach to data analytics where machine learning and natural language processing are used to automate analyses that would have otherwise been done by a specialist or data scientist.
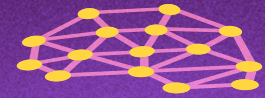
Generative AI is a type of artificial intelligence (AI) system capable of generating text, images, or other media in response to prompts. Generative AI models learn the patterns and structure of their input training data, and then generate new data that has similar characteristics.

One result of the technologies just mentioned is the ability to generate **synthetic content (or synthetic media)**. Unlike images, sound and video that previously existed and were then manipulated, synthetic content refers to computer-generated data that imitates real-world information in order to generate seemingly novel content. But it is important to remember that the **generative AI** tools used to make synthetic content all rely on an immense amount of previously created content in order to generate new combinations of data. We call the process of using existing content to develop these tools *training*. So, what looks like brand new content is actually based on a lot of previously created content. [5]

SYNTHETIC CONTENT CAN TAKE A NUMBER OF FORMS:

SYNTHETIC TEXT:

ChatGPT hit the market in full force in December 2022, and became a tangible example of synthetic text powered by **natural language generation (NLG)**, producing endless variations of written texts on demand with just a few prompts. Both Google (Bard) and Microsoft (Bing) have their own versions of a synthetic text generator, while AI-powered ChatBots, known as **conversational agents**, are examples of how synthetic text can be used to respond to questions or provide information that is more relevant to a user's needs.

Tools for creating synthetic text:

ChatGPT (OpenAI)   Bard (Google)   Bing (Microsoft)

SYNTHETIC IMAGES:

Also known as **image synthesis**, synthetic images are generated using textual prompts and cross referencing them with enormous online image databases, in order to produce (or at least attempt to produce) a realistic-looking image.

Tools for creating synthetic images:

Stable Diffusion – text to image

DALL-E (Open AI) – text to image   MidJourney

SYNTHETIC CONTENT CAN TAKE A NUMBER OF FORMS:

SYNTHETIC VIDEO:
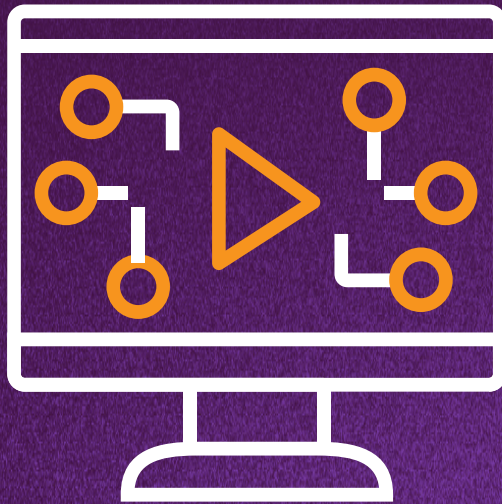
Like synthetic images, once the generative AI tool is trained, AI-generated video content is made without new cameras, microphones, actors or props. Such videos can be created having lifelike AI presenters read provided scripts, applying face-swapping technologies, or animating still images. **Deep fakes** are a particularly troubling variation of synthetic video. These AI-generated manipulations of faces, voices, tones and gestures move beyond trick editing to realistically depict people saying and doing things they haven't. While deep fakes can be used innocuously, for example to create more effective training videos, the ability to represent the likeness of political actors presents countless dangers and concerns, from discrediting political rivals, to confusing voters to enabling foreign state-sponsored interference. [6]

Tools for creating synthetic video:

Synthesia   DeepBrain AI

SPEECH SYNTHESIS:
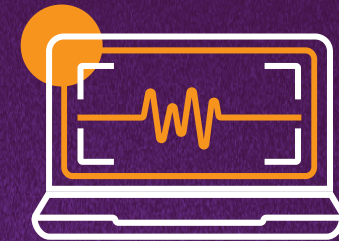
Synthetic audio, commonly known as **speech synthesis** is the artificial generation of speech. In addition to more realistic-sounding artificial voices, this can also include **voice cloning**, which artificially duplicates the characteristics of an individual's voice, also known as audio deep fakes. [7] AI can also be used to change accents, something that is becoming more popular in telemarketing, as well as disguise voices.

Tools for speech synthesis:

VoiceLab by ElevenLabs   Speechify

LOVO   Respeecher   VALL-E

USES OF AI IN ELECTORAL POLITICS
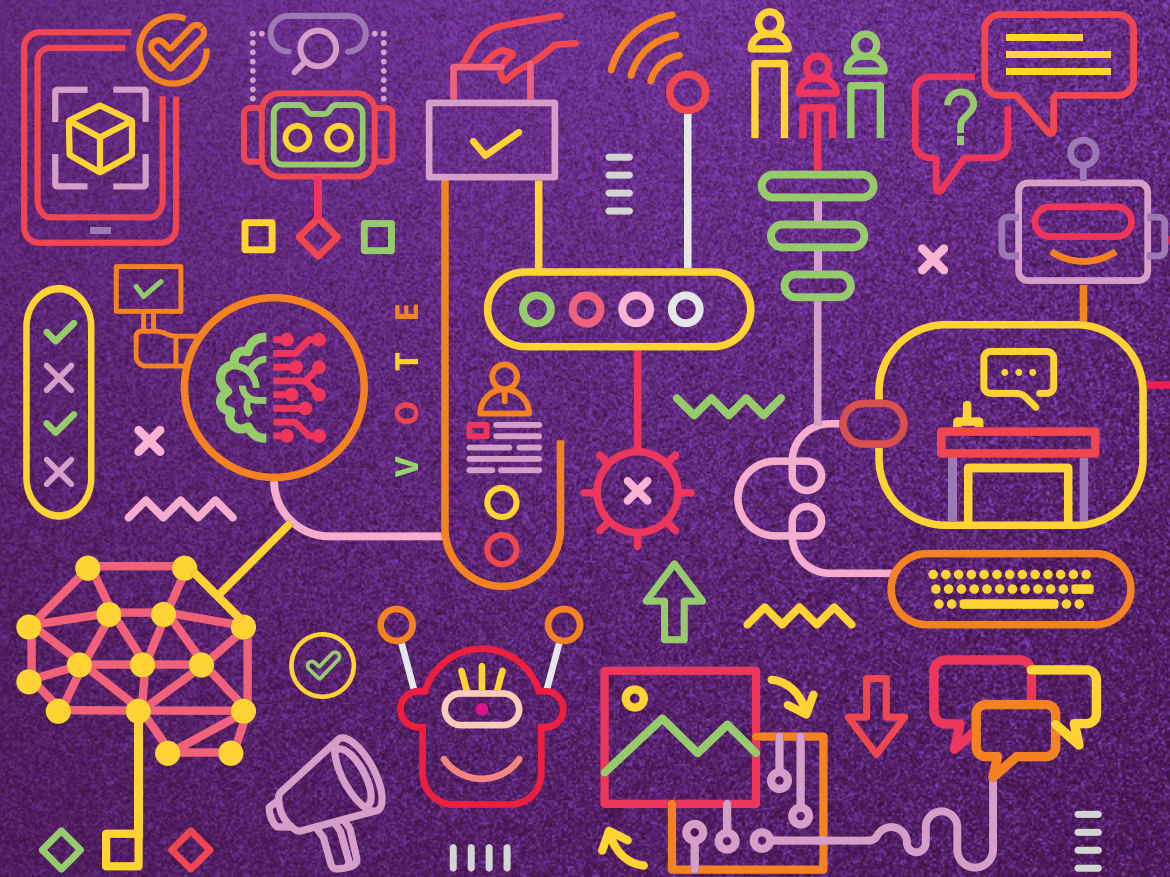
One of the reasons AI-enabled tools have become so popular is because they provide faster, cheaper ways to accomplish political tasks more effectively and efficiently. **Augmented analytics** provide the ability to cut through vast data sets and distill relevant elements into accessible information. **Machine learning** can be leveraged for data analysis of voter trends and can also be used to detect online abuse or disinformation. **Natural language processing (NLP)** might be used to disseminate information via **conversational agents** as well as to generate campaign texts or interact with voters. **Synthetic content** can be generated and tailored to a given context faster and more efficiently than traditional methods, saving time and resources, and can be easily modified and updated, enabling quick adjustments to meet changing demands. **Generative AI** can produce content that is personalized to meet specific needs or reach voters with more relevant messages.

These same AI tools, however, can also be used to spread disinformation, create confusion and undermine trust in democratic systems, or interfere with elections. **Augmented analytics** make it easier to target people with particular messaging that might influence their voting behaviour. **Machine learning** can lead to biased or inaccurate models. **Synthetic content** can easily be used to misrepresent political players and mislead voters. **Generative AI** can produce depictions of people, places and things that don't exist.

In this report, we examine how AI is being used in Canadian electoral politics in the two main phases of the election cycle: 1) during elections (which includes the pre-election period, election period and post-election period), and 2) in between elections. In the pages that follow you will find sections dedicated to types and contexts of political uses of AI and accompanying short cases illustrating those uses in Canada.

CANADIAN ELECTION CYCLE

Canada has fixed federal election dates, which, under normal circumstances, take place in October every four years. This election cycle is divided into four phases:

1 the pre-election period begins on June 30 in the year of a federal election, and ends the day the general election is called. During this time, voter registration occurs, and limits are in place for spending on advertising and campaigning.

2 the election period lasts between of 36 and 50 days, during which election offices open, candidates submit their nomination forms, campaigning takes place, and voting happens.

3 The post-election period begins the day after voting, during which elections officials are required to submit a number of reports.

4 In between elections the rush and activity of an election period settles down, but a number of political activities continue, including lobbying, voter engagement and political advertising.

Overview of Elections Canada and the Federal Electoral System Briefing Book (October 2021)

Uses of AI during elections

Disseminating election information

AI-enabled tools can be a big help in simply circulating political information throughout a society. It can make it easier for public officials and agencies to disseminate information, and for citizens to get easier access to more relevant information. **Conversational agents** and **voice assistants** can make information more easily available to more people. They can also relieve pressure for an organization, absorbing some of the effort that would otherwise go towards answering calls or emails. This can be especially useful when users are asking repeated questions, or there is an event or situation that has led to increased attention and activity.

CASE

ELECTIONS MARKHAM VIRTUAL ASSISTANT

`SYNTHETIC CONTENT` `VOICE ASSISTANT`

`VIRTUAL ASSISTANT` `NATURAL LANGUAGE PROCESSING`

In September 2022, the City of Markham, northwest of Toronto, launched a virtual assistant in partnership with IBM Canada, designed to help voters get information ahead of an upcoming municipal election. Powered by IBM Watson Assistant, the conversational AI platform used natural language processing (NLP) to answer any question a voter might have, such as where to vote, who their candidate is, how to register or how to vote online. Additionally, the city added a voice assistant function, allowing users quick and hand-free access to the virtual assistant through their Amazon Alexa devices.
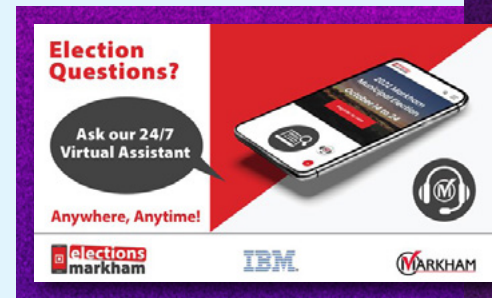
In June 2023, the City of Markham announced an updated version of its AI-enabled virtual assistant would now be available on the city's website 24/7, which could answer questions related to more than 100 topics, and transfer residents to live agents as needed.

MORE:

- IBM Watson Assistant
- Elections Markham & IBM Canada launch virtual assistant to answer all your municipal election questions (2022, July 8)
- Amazon Alexa gives Markham voters hands-free election information at home & on-the-go (2022, October 12)
- Markham launches newly updated Artificial Intelligence-enabled Virtual Assistant 2.0 (2023, June 7)

POLLY

WEB SCRAPING   BIG DATA   SENTIMENT ANALYSIS   AUGMENTED ANALYTICS

Polly is an AI-enabled market research system built by Ottawa-based Advanced Symbolics Inc. (ASI). Using a combination of public social media data, web scraping and sentiment analysis, the digital pollster accurately predicted a Liberal Party minority government in Canada's 2019 federal election with 77% confidence.

Pulling from millions of publicly available social media posts worldwide, Polly enables sentiment analyses to understand how real-time events are being talked about and compare these to historical patterns and trends. For political purposes, Polly aggregates public opinions, voting patterns and demographical data to build a representative sample of voters and make predictions on election outcomes (among other things). In addition to the 2019 election results, Polly also correctly guessed the outcome of the 2015 federal election.

Outside of Canada, Polly was one of the few pollsters that correctly predicted the United Kingdom's vote to leave the European Union in 2016, as well as Donald Trump's rise and win of the popular vote in the 2016 U.S. presidential election. The software is certainly not infallible, however, and has made a few incorrect guesses, including predicting a win for Hilary Clinton in the 2016 U.S. election.

MORE:

- Advanced Symbolics Inc.
- Political Polls Are Flawed. Can AI Fix Them? (2019, September 26). The Walrus.
- Meet Polly, the AI pollster that wants to predict elections using social media. (2020, October 16). In CBC Radio.

Polling & predicting

One of the big strengths of AI-enabled tools is that they can process, synthesize and analyze huge amounts of data, in a way that no human ever could. Such data — everything from how much money people make to where they live to what they buy to what they like — can be compiled and used for polling, tracking public opinions and predicting election result. [8] **Augmented analytics** uses AI and **machine learning** to quickly aggregate and analyze massive amounts of data to predict how people might vote and overall election results. It can be used to recommend campaign strategy, for example by identifying swing ridings in order to target advertising or optimize resources. It can be used to guess how people will donate and improve fundraising tactics.

It can be used to track historical trends and preferences in order to make candidates more (or less) appealing. It can be used to track trending social and political issues and to judge the mood of voters on social or political issues with something known as **sentiment analysis** or **opinion mining.** [9] Furthermore, all these models—of voting records, donation behaviours, and public opinion—are continuously updated and refined, to produce increasingly accurate models.

Political campaigning

In addition to using **synthetic media** in campaign materials, new types of media might also start to see more uptake. In 2014, India prime minister candidate Narendra Modi made more than a thousand campaign appearances as a hologram. [10] The stunt was achieved using projectors and a special transparent screen to depict a 3D image of Modi, and to date holograms production has generally been time consuming and expensive. Bringing AI into the mix has the potential to make this type of technology more available and accessible. [11] In June 2022, Ukraine president Volodymyr Zelenskyy appeared on stages at tech conferences across Europe, as well as to smartphone users with immersive AR technology. [12]

Elections advertising

While there is extensive discussion around the use of **synthetic content** for more malicious purposes, many uses of AI-enabled tools come down simply to saving time and money for the user (although creating these tools in the first place is a very expensive process). [13] Instead of spending the money to hire photographers, videographers, spokespeople, writers, graphic artists, actors or models, political strategists can turn to AI to create the exact image, video, audio, text or graphic they want. To date, it has been common to use stock images and video in political advertising, although not without its own complications: In 2010 a woman from rural Quebec who had provided her image to stock image providers discovered she had become the face of both the Conservatives and the Bloc Quebecois.

Synthetic images, videos and **text**, have now started to show up in political advertising. AI can also help create personalized messaging in automated calls, text messages or chatbots, which can insert customized greetings or additional knowledge about a voter or citizen. [9] **Synthetic text**, for example, could be generated in order to change the style or tone of an email to make it more compelling for different types of voters, while **voice cloning** can be used to have a political candidate make "personalized" calls or messages. Google and Meta made announcements in Fall 2023 requiring AI use in political advertisements to be flagged, [14, 15] while Microsoft created a tool to embed watermarks to make AI content more identifiable. [16] We should expect these companies, and others, to continue to adjust their policies as use of **generative AI** in elections and advertising evolves.

CASE

TORONTO MAYORAL ELECTION CAMPAIGN

GENERATIVE AI   SYNTHETIC IMAGES   AI CONTENT DETECTION   SYNTHETIC CONTENT

In the run-up to Toronto's mayoral election in June 2023, candidate Anthony Furey's campaign released a 42-page platform, which quickly made the news, but not for its political positions. Instead people noticed the three-armed woman, a result of using generative AI to create the images that accompanied the text. Additionally, others pointed out that many of the images used throughout the platform document seemed "off": a name tag with illegible writing, a downtown street that can't quite be identified, a homeless camp that seems to have more tents than usual. Furey's campaign confirmed it had used synthetic images in the platform document, however there was no indication that this was the case.

Screenshots from Anthony Furey's campaign website

In addition, a scan of Furey's website using an AI-detection tool called GPTZero suggested sections of it had been written by AI.

MORE:

- *Twitter*. @BenSpurr Post (2023, June 12).
- Anthony Furey's run for Toronto's Mayor includes weird AI-generated images (2023, June 16). *Mobile Syrup*.
- Toronto candidate trolled for using AI-generated campaign photos (2023, June). *Blog TO.*
- Anti-Homeless Mayoral Candidate Uses AI to Create Fake Images of 'Blight' (2023, June 15). *Vice.*
- GPTZero

Micro-targeting

In addition to the advertising content itself, a growing use of AI is to identify and engage with certain groups or types of people, for example undecided voters. [9] **Augmented analytics** help target advertising, not just towards segments of the population but at individuals with particular interests, demographic traits, voter status, location or a combination of any number of characteristics, a strategy known as **microtargeting**. [9]

With the advent of AI-enabled tools, the line between campaigning and election influence is becoming increasingly blurred. The [Cambridge Analytica scandal ahead of the 2016 U.S. presidential election](#) raised concerns about the potential of harnessing big data to **microtarget** voters in particular areas with particular

messages in ways that influence them to vote in particular ways (though the effectiveness of the approaches have been questioned). [46] Software built around more complex **large language models** can generate texts, social media and emails, potentially with **synthetic images and videos** that are tailored to individuals. [17] Moreover, such **machine learning algorithms** use a trial-and-error approach, meaning they keep adapting and its messaging keeps evolving, in order to meet the objective it has been programmed to achieve. This could include creating messaging that is non-political in nature in order to better understand voters, or creating the impression that people's social circles support a particular issue or candidate. [17]
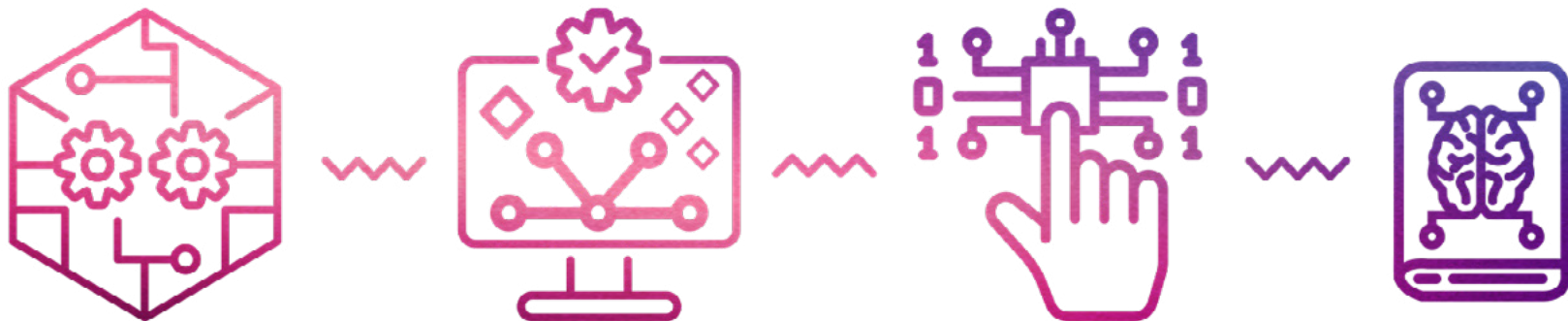
ALBERTA PARTY SYNTHETIC VIDEO

SYNTHETIC CONTENT   SYNTHETIC VIDEO   SPEECH SYNTHESIS

In January 2023, the Alberta Party, which did not hold any seats in Alberta's legislature, shared a video endorsement on Instagram, depicting a man promoting the party as a third option for Albertans who did not want to vote for either of the two main provincial parties (the United Conservative Party of Alberta or the Alberta New Democrat Party). It was quickly pointed out on social media that the man making the endorsement in the video was not a real person and the post was subsequently deleted.

Alberta Party @AlbertaParty · Jan 26
Imagine if other political parties in Alberta admitted their mistakes instead of doubling down and making it worse. For anyone who wants to see our slightly stilted AI friend here you go.

0:54

💬 18   🔁 20   ♡ 34   �archive 35K

The video "spokes-bot" was an AI-generated avatar created using the AI video generation software Synthesia, which allows users to feed scripts to one of some 140 pre-defined avatars.

In media interviews and on Twitter, Alberta Party leader Barry Morishita acknowledged the content was a synthetic video, but that the intention was to be innovative and generate discussion about policies rather than people.

MORE:
- Synthesia.io
- @Alberta Party (2023, January 26) *Twitter*.
- Ethics of AI: Video from the Alberta Party raises concerns (2023, January 26). *CityNews*.

Political attacks and propaganda

Doctored images are not new to the political scene. A famous image of Abraham Lincoln standing regally next to a desk, published in the mid 1800s, turns out to be a superimposed image of the American president's head on the body of another politician. In the 1920s Soviet dictator Josef Stalin was known to have his enemies removed from photographs. Even recent forgeries did not rely on AI-enabled tools, such as a 2019 video of American congresswoman Nancy Pelosi that was slowed down and pitch-corrected to seem like she was slurring words during a speech, as though impaired.

Generative AI provides much more convincing forgeries. It can be used to seamlessly remove or add elements to photos, and blur backgrounds. It can do facial retouching, removing blemishes and red eye, whiten teeth, change eye colour and reshape eyebrows. It can be used to transform images into paintings, or recolour photos. In late April 2023, the Republican Party released its first AI-generated attack ad, a photo montage of **synthetic images** set to news bulletin-type audio clips.

CANADIAN POLITICAL DEEP FAKES

SYNTHETIC CONTENT   SYNTHETIC VIDEO   DEEP FAKES   SYNTHETIC AUDIO   VOICE CLONING

As early as 2019, deep fakes of Canadian politicians surfaced online. There's some rough face swaps of Doug Ford giving a now-famous Donald Trump speech, and Andrew Scheer doing a public service announcement on crack cocaine as PeeWee Herman. In 2022, a much more convincing deep fake of Justin Trudeau reading a satirical version of a children's book surfaced. In 2023, an audio deep fake appeared of Joe Rogan ostensibly interviewing the prime minister, with voices synthesized using a voice-cloning software called ElevenLabs.

While the level of deep fakes of Canadian politicians has to this point mostly been satirical or comedic, like a 2022 TikTok deep fake of Trudeau and NDP leader Jagmeet Singh lip synching. It's not hard to imagine more malicious uses.

MORE

- Generative Voice AI (Eleven Labs)
- Doug Ford x Donald Trump Deepfake Full Clip. (2019, June 5). YouTube.
- Andrew Scheer x Peewee Herman x Crack Cocaine. (2019, June 21). YouTube.
- Episode 13: How The Prime Minister Stole Freedom, presented by Justin Trudeau. (2022, September 6). YouTube.
- Joe Rogan Interviews Justin Trudeau. (2023, February 17). YouTube.
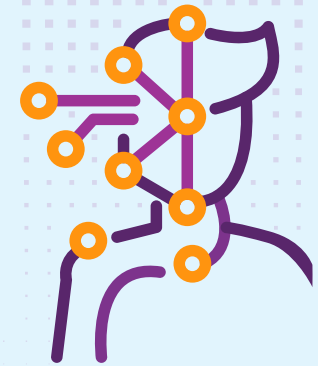
Attention to political **deep fakes** spiked in 2018, after actor Jordan Peele and BuzzFeed teamed up to create the now well-known deep fake of former president Barack Obama. While that project was meant to be entertaining and educational, it showed how convincing **synthetic videos** could be and the dangers they present. Fast forward to May 2022, a few months after Russia invaded Ukraine, for a particularly salient example of (a) deep fake showing Ukrainian president Volodymyr Zelenskyy ostensibly surrendering and telling his citizens to lay down their arms. Because the forgery was not very well done, it was quickly detected, but not before hackers managed to broadcast the surrender message on the ticker tape of a Ukrainian TV news station and upload the video to its Facebook page.

Enabling information disorder

The problems of 'fake news', doctored images and propaganda existed well before digitized content and AI-enabled tools. However, until now, the majority of this content was created by individual actors: someone writing a fake story, or using PhotoShop to manipulate an image, or creating a bot that comments on certain topics with pre-scripted texts. These mis-, dis- and mal-information (MDM) campaigns took time and effort. AI-enabled tools, however, are capable of generating very realistic looking media, whether text, images, video or audio, and doing so almost instantly, making such content increasingly easier to deploy, and increasingly harder to detect. **Synthetic images** and **videos** can show events that don't exist or never occurred, while **synthetic audio**, known as **speech synthesis** can be used to trick voters into thinking political actors have said things they didn't or election officials have made announcements they didn't.

ELECTIONS CANADA'S DISINFORMATION MONITORING

SENTIMENT ANALYSIS   SOCIAL LISTENING   AUGMENTED ANALYSIS

In September 2018, Elections Canada put a bid out to purchase AI-enabled social listening tools used to collect information about what was being said on social media related to the upcoming federal election and identify mis- and dis-information in circulation.

Following the 2019 federal election, the agency reported that the number of occurrences of disinformation was limited, and that most inaccurate content seemed to be unintentional or meant as a joke. In the situation where the content had the potential to interfere with the electoral process, for example creating confusion over when and how to vote, Elections Canada reported such posts to the corresponding platforms for review or removal.

Following the 2021 federal election, Elections Canada noted in its statutory report that there had been "an improvement in the agency's ability to monitor certain election-related topics in the public environment and to address potential mis- or disinformation that could affect electors' ability to vote", [22] however there is no mention of specific tools. The report also notes the creation of an Environmental Monitoring Centre in 2020, that would help "deepen its understanding of the information environment and observe inaccurate narratives as they developed" [22] (p. 33), but again do not provide any specifics.

MORE:

- Elections Canada will use AI to fight disinformation on social media (2018, November 2). *iPolitics.*
- Political Communications in the Digital Age - Discussion Paper 2: The Impact of Social Media Platforms in Elections (2020, May). *Elections Canada.*
- Report on the 44th General Election of September 20, 2021 (2022, January). *Office of the Chief Electoral Officer of Canada.*

Deep fakes have been on the radar of Canadian intelligence and government since at least 2018, when a parliamentary report in response to privacy breaches related to Cambridge Analytica scandal briefly mentions this use of AI. [18] In 2019, the Library of Parliament published a report, *Deep Fakes: What Can Be Done About Synthetic Audio and Video?*. [19] The Canadian Centre for Cyber Security first noted deep fakes as a "layer of uncertainty and confusion for the targets of disinformation campaigns" in its 2020 National Cyber Threat Assessment. [20] In its 2021 report on cyber threats to Canadian democracy, the Cyber Centre noted that deep fake text was particularly challenging to detect, and had the potential to undermine electoral processes. [6] By its 2023-24 threat assessment report, the Cyber Centre was citing instances of political deep fakes, and advised that "**synthetic content** calls all information into question". [21]
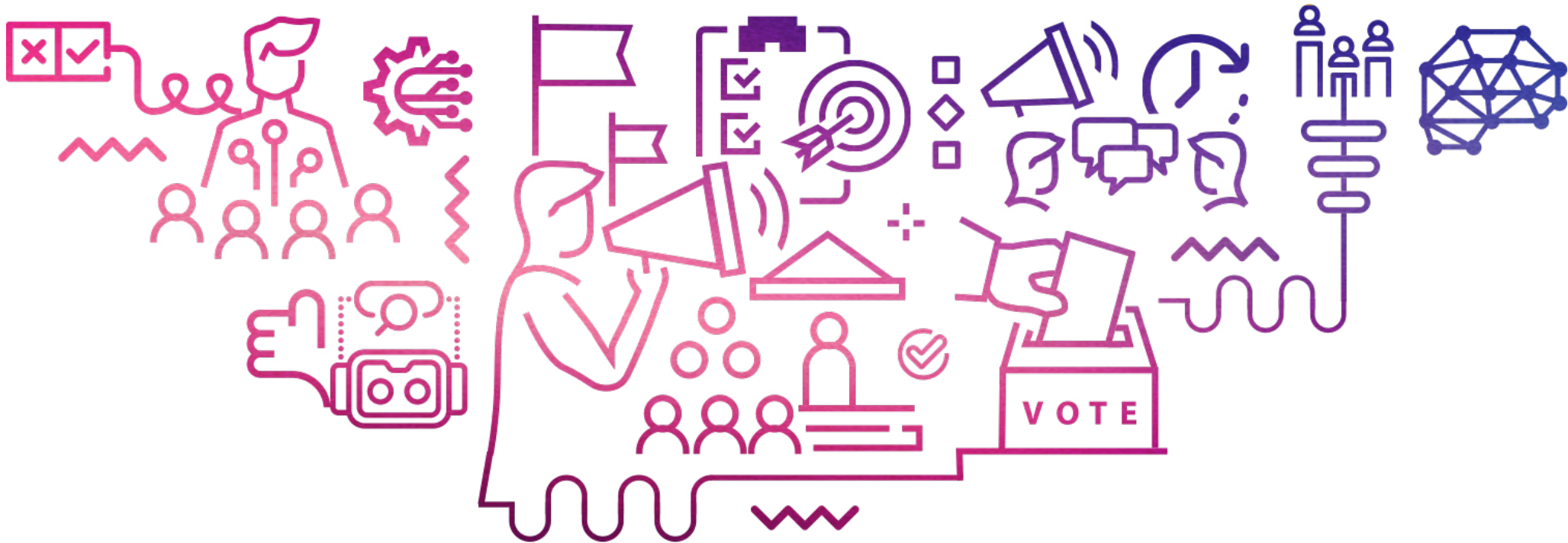
Elections interference

Often related to information disorder, but not always, is the use of AI to interfere in elections or to change their results. This could include interference by foreign actors trying to influence the outcomes of other nations' elections. It could be corporate actors looking to influence results that will be more favourable to their economic interests. Or it could be internal political actors trying to influence elections in their favor.

While the Canadian Centre for Cyber Security reported in its 2023-24 threat assessment

report that mis-, dis and mal-information "propagated by state-sponsored cyber threat actors represents an ongoing, persistent threat to Canadians", [21] these were not put in the context of elections interference, but rather online foreign activity meant to influence international narratives about Canada. The 2021 post-election report by Elections Canada reported no serious elections interference attempts, either by way of cyberattacks or the spread of inaccurate information. [22]

Detecting and countering information disorder

While bad actors leverage AI-enabled tools to spread misinformation (the unintentional sharing of factually false information) and disinformation (the deliberate spread of false information), [23] the same tools and techniques are also being deployed to detect, track and counter information disorder. A number of AI-driven tools to help with fact checking have been created. Completely autonomous fact checking hasn't been perfected yet, in part because **large-language models (LLM)** are able to process and replicate text that looks like it was made by a human, but aren't great at understanding the nuances of language, nor are they good at fact checking events that are occurring in real-time. [24] But AI-driven tools can make the task easier for human fact checkers.

Credibility indicators can also be automatically applied to news or social media posts, assessing whether the content might be fabricated, however some research has shown they sometimes have the opposite effect. Some social media sites are instead, or in addition, also changing their algorithms in order to draw less attention to disinformation. For example, Facebook will hide posts containing claims that have already been discredited lower in users' feeds.

AI CONTENT DETECTORS

Textual content detectors

- GPTZero
- CopyLeaks AI Content Detector
- Writer.com's AI Content Detector
- Giant Language Model Test Room
- Content at Scale AI Detector

AI image detectors

- Content at Scale Advanced AI
- Illuminati
- Optic's AI or Not
- Hive Moderation

Deep fake detectors

- DeepWare.ai
- Deep Fake Detector

Social listening tools use AI to monitor trends and public opinions across different communities and demographics on social media, known as **sentiment analysis** or **opinion mining**, and to identify mis- or dis-information that is circulating.

AI can also be used to make content moderation decisions, a role that has become untenable for human moderators, given the sheer volume of online content. [25] **Natural language processing** and **machine learning algorithms** can be used to support proactive moderation, where content violations are detected before they are reported by users (otherwise known as reactive moderation). [25]

In addition to identifying false narratives, the detection of synthetic content is becoming increasingly critical — and increasingly difficult, especially for humans. **AI content detectors** can help identify patterns that are unique to **synthetic content**, and use **machine learning** to continuously learn from the data they are processing and update their models to make better predictions.

There are already a number of free and paid AI text content detectors, AI image detectors, and deep fake detectors. In addition to ready-made detection tools, deep fake datasets like those provided by FaceForensics or Facebook [26] allow new **machine-learning algorithms** to be trained to detect **synthetic videos**.

Countering online abuse

Mal-information is another type of information disorder that describes sharing information that is based in reality but spread with the intention of causing harm. [23] AI is being used to detect and counter online harassment and abuse of political players. Research has shown that such abuse, including hate speech, cyber bullying, profanity and threats, disproportionately targets women and racialized people [27, 28,] which can create a chilling effect on democratic participation by underrepresented groups. [29] **Machine learning models** can be used to detect abusive content online, allowing humans to then intervene.

SAMBOT

`MACHINE LEARNING`   `NATURAL LANGUAGE PROCESSING`   `BOT`

SAMbot is an AI-enabled machine learning bot that was created by The Samara Centre for Democracy and Areto Labs to detect toxic tweets during Canadian elections. Short for Samara Areto Monitorbot, the utility tracks tweets in both English and French tweets that are sent to candidates during the course of an election.
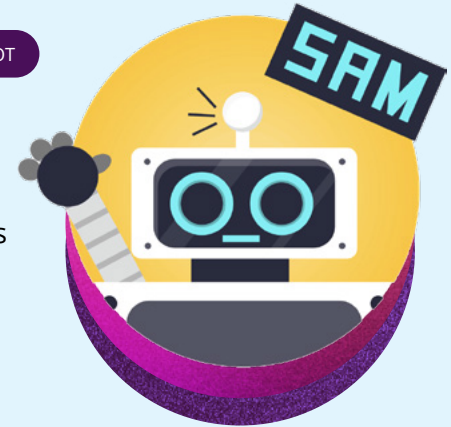
SAMbot uses natural language processing, and machine learning to assess the content of Tweets to determine whether they contain profanity, threats, insults, identity attacks or are sexually explicit. The Samara Centre has released reports of the bot's findings for the 2021 Canadian federal election and the 2022 Ontario provincial election, as well as a report tracking online abuse in eight municipal elections held across Canada in 2022.

MORE:

- SAMbot
- Samara Centre for Democracy
- Areto Labs
- SAMbot 2021 Federal Election Report
- SAMbot 2022 Ontario Election Report
- SAMbot 2022 Municipal Report

Uses of AI
between elections

Many party functions extend beyond elections: organizational maintenance, membership and candidate recruitment, political communication, fund raising, and policy planning, all occur in between electoral campaigns. [30]

Tracking election promises

Another way AI is being put to political use is in tracking and monitoring political information, and government activity. This can include using **augmented analytics** to analyze political documents, as occurred in Germany following a 2017 election that forced parties to form coalitions. AI was used to determine which of each party's platforms and political goals had been captured in the formal coalition agreement. [31]

Lobbying

Government lobbying involves outside stakeholders who meet with and attempt to influence public officials about the creation, development, or amendment of legislation, regulations, policies, or programs, the awarding of government grants, contributions, or any other financial benefit. In Canada, federal government lobbyists are required by law to be registered [32] and to submit monthly communication reports on their meetings with public officials, including Members of Parliament, senators, ministers, and other public servants. In 2023, there were just under 7,000 lobbyists registered with the federal government, who averaged anywhere between 2,000 to 4,000 monthly communications. [33]

Some countries are making advancements in automated lobbying like the United States where the firm FiscalNote uses data points to prepare lobbying strategies and estimates their efficacy. In August 2023 the company also launched FiscalNoteGPT, a policy, legal, and regulatory AI-assistant built on **generative AI** and **large language models (LLM)**.

Tracking voters and political engagement

Political engagement platforms (PEPs) are software platforms that combine data aggregation and data analytics. [34] They are used by the major political parties, which facilitate a campaign's contact with voters as well as its internal operations. Where, previously, political parties leveraged more simple databases of voter intentions, the combination of connectivity and AI-enabled tools means campaign software now provide unprecedented opportunities to interact with voters and to analyze their behaviours. [35] PEPs aggregate voter data such as names, addresses, demographics and voting history which is then integrated with different communication tools like websites, newsletters, text messaging and social media.

CASE

POLITICAL ENGAGEMENT PLATFORMS IN CANADA

AUGMENTED ANALYTICS   SENTIMENT ANALYSIS

In the mid-1990s, the Ontario Progressive Conservative Party developed its first voter management database, the Constituent Information Management System (CIMS), which included information about more than a million voters, as well as details about supporters, donors and volunteers. This database laid the groundwork for a national data bank used by the Conservative Party of Canada, and in 2013 an upgraded version included mobile capabilities that allowed canvassers to add data while door-knocking. Around the same time, the Liberal Party of Canada began using a competing software by Voter Activation Network (VAN) called MiniVan.

Currently, the predominant parties each use different platforms. The CPC uses NationBuilder, a widely known customer relationship software used by the Trump campaign ahead of the 2016 election. The Liberals use tools by NGP VAN, the successor of the Voter Activation Network, originally developed for American Democratic parties. The New Democratic Party of Canada has previously used software by another Democrat-affiliated firm, Blue State Digital, which provided support for Obama's 2008 and 2012 campaigns, before moving over to NationBuilder in 2018.

MORE:

- Battling political machines: Coming to a riding near you! (2015, August 19). Canadian Centre for Policy Options, *CCPA Monitor*.
- Conservative campaign database fiasco costs party millions (2013, October 23). *CBC News*.
- NDP hires new digital director, firm who worked for Obama (2014, September 12). *Globe and Mail*.
- Conservative app puts voter identification in campaign workers' hands (2015, June 12). *CBC News*.
- New mobile election apps mean pressure's on for local campaigns (2015, June 13). **CBC News.**
- Digital tools power parties' election campaigns but privacy a question (2019, Sep. 16). *Canadian Press*.
- NationBuilder
- NGP VAN
- Bluestate Digital

Transparency

While not generally AI-driven, there are also transparency **bots**, which keep tabs on government activity, in particular public spending and lobbying, and make this information publicly available, often in the form of Tweets. [36] AI tools could be developed to enhance these and other transparency initiatives.
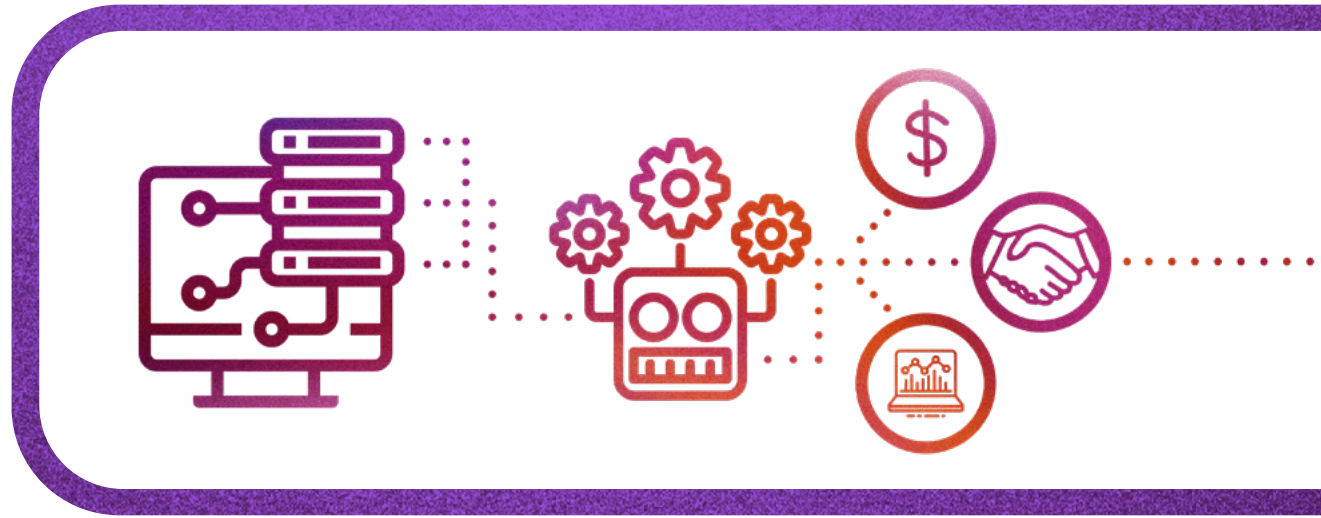
CASE — ENVIRONMENTAL DEFENCE'S LOBBYING BOT   BOT

In September 2022, Environmental Defence, a Canadian environmental advocacy organization, launched its Federal Oil & Gas Lobbying Bot (@FebLobBot), a Twitter bot that keeps tabs on lobbying by the oil and gas industry in Canada. The bot pulls data from the federal government's lobbying website and posts each time a meeting occurs between Canadian government officials and any representatives of oil and gas companies or industry associations. Each post provides the date of a meeting, the registered lobbyist and the governmental officials or departments with whom they met. In the first year of activity, @FebLobBot made more than 700 posts.

A similar bot, which Environmental Defence credits for the inspiration behind its bot, is the BC Oil and Gas Lobbying Bot (@bcgaslobbybot), which tweets whenever fracking and LNG companies lobby British Columbia's provincial government.

MORE:

- Federal Oil & Gas Lobbying Bot (@FebLobBot)
- BC Oil and Gas Lobbying Bot (@bcgaslobbybot)
- Computational Propaganda in Canada: The Use of Political Bots (2017). Oxford Internet Institute.

CRITICAL CHALLENGES

The opportunities to put AI to use in political contexts are far reaching and will only continue to grow. As such, there are a number of broad critical issues to consider when it comes to putting AI tools into political play. Moreover, questions around the uses of AI in political domains are not just technical ones; they are fundamental questions about how societies are governed and how they should be governed. AI, by definition, involves a degree of decision making, which challenges the notions of democratic participation and self-rule. [37]

In April 2023, the Pol Comm Tech Lab at the University of Ottawa hosted a panel of experts from across Canada to discuss the current state of political uses of AI in Canadian politics. The panelists raised a number of critical issues and concerns, which we summarize here.

Mass datafication

"We need a fundamental rethinking of the methodology ... there's so much information about our daily minutia out there. This is a fundamental shift in human existence."

WENDY WONG

"There's a real desire to bake in anonymized de-identified data as something that doesn't have the same consent obligations."

FENWICK MCKELVEY

"We need to talk about the right not to be tracked in the first place. And what that means is rethinking fundamentally not only privacy laws, but laws about us being in public."

SAMANTHA BRADSHAW

While **mass datafication** has enabled fantastic technologies—from the phones we carry around in our pockets to advances in medicine to self-driving cars—the amount of data that is endlessly collected about each of us represents a fundamental need to shift the way we understand privacy and privacy laws, as well as what constitutes the public domain or public information. For one thing, there's simply no way all of us can consent to the collection of all of this data. Moreover, social media deliberately mixes our private and public lives, and blurs the line between the two, something previous legal constructs do not account for. Mass datafication brings up questions about consent, surveillance and the ability to remain a private citizen while also participating in public life.

"We increasingly [need to be] thinking about what we're calling data fluencies: ways to reinvent, intervene and to speak in different ways, and resist this data-filled world we find ourselves part of."

WENDY CHUN

Harms

"By relying on AI to create the reality of our world, we're just replicating all of these problems. We're trapping ourselves in the past. We're trapping ourselves in racism. We're trapping ourselves in sexism. We're trapping ourselves in the same kind of human rights violations that we've seen over and over and over."

SUZIE DUNN

AI systems are not politically neutral. Because they are designed to make decisions in service of their objectives, power relations are inherently at play. [1] This raises questions about who makes the decisions about the decisions AI systems makes. Who decides on the objectives of an AI system? Who decides the level of agency or autonomy? Who decides how data is classified and categorized? Who decides on what courses of action are taken based on those classifications? The system designers—be it the governments, corporations, managers or individual programmers—bring with them ideologies, opinions and beliefs that become embedded in AI-enabled tools. Furthermore, as human decision makers become further removed from the decisions being made, the entrenched political and cultural worldviews become more opaque. [1]
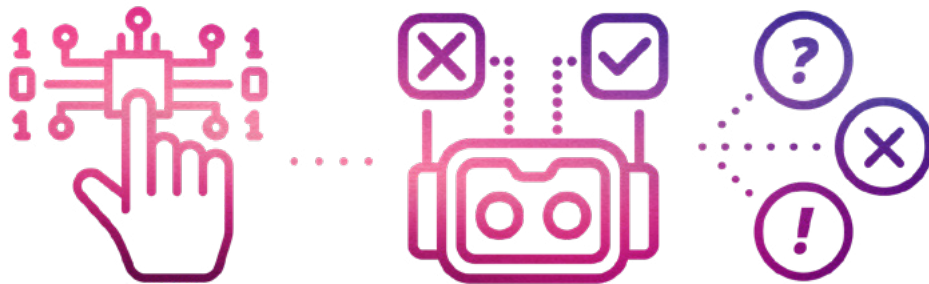
Because it is impossible to disentangle AI technologies from power, there exists the potential to cause harm. [37] Because system designers embed their own cultural and political worldviews into the tools they create, there exists the potential for these tools to make decisions that are biased or discriminatory. [37] Moreover, they have a tendency to reinforce structural and systemic inequalities that already exist, creating further harm for vulnerable or marginalized individuals and communities. [1,3] AI systems also rely on large and comprehensive data sets, which brings into question issues of data quality. What dataset is an AI system drawing from to make decisions? The contents may not always accurately reflect real-world data, leading to potential biases and inaccuracies in AI models and software solutions.

One of the biggest critical issues related to the use of AI is a lack of transparency related to its deployment. Thanks to the "**black box**" effect, [4] not only are people unsure how these complicated technical systems work, they are also often unable to find out. System designers of these tools may be unwilling to divulge their inner workings because of economic, military, and security interests, keeping them from public or legal scrutiny. [3] Moreover, the decisions that AI systems make are informed by the huge data sets along with what machines have learned as they are trained with different models, making it virtually impossible to reconstruct. [3, 38]
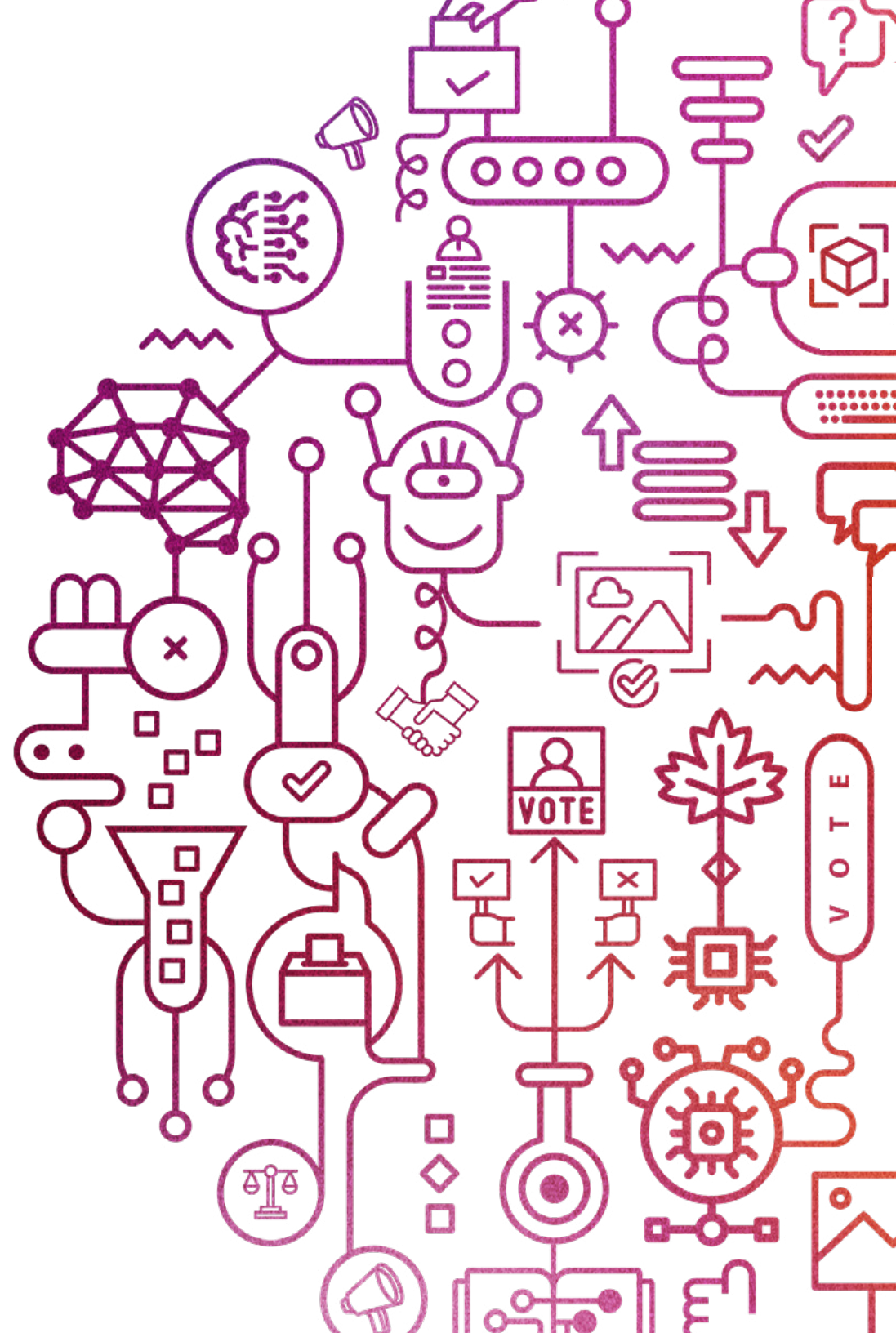
Accuracy

"Technical defaults embed social and political values and assumptions. Also, since even generative AI systems are trained using past data, they can automate rather than learn from past mistakes. A result is validated as true if it either repeats a past value (hidden during the training phase) or if it generates a value that seems plausible given past occurrences."

WENDY CHUN

AI systems do not know what facts are. **Synthetic content** is generated based on what the creator has asked for, not based on reality, allowing them to set the context of a situation, to depict a situation that might not exist in real life. One of the problems with **large language models** (LLMs) is known as "AI hallucinations" — these are responses generated by the model that make sense grammatically and seem plausible, but are in fact incorrect or untrue. [39] For example, Chat GPT has been known to generate references for academic journal articles that do not

exist [40] and provide titles and links to news stories that were never written. [41]

Skewed datasets on which AI tools are drawing can also amplify biases and stereotypes. For example, many social media users who discuss politics online are actively engaged in politics and tend to be more partisan. However, active social media users, particularly on Twitter, also make up only a fraction of the total population [42] and basing broad public opinion on trends found on Twitter is not necessarily representative.

Additionally, while **LLMs** can produce text that looks like it was written by a person, they are not great at detecting nuance in language. One challenge for AI is to understand the context of a comment, in particular in threaded conversations. Different interpretations can result in different classifications. [43] AI systems also have trouble with sarcasm, since the content of the message is often not in itself abusive, profane or offensive, but the tone or the intention is. [43] Moreover, there is no clear definition of what constitutes abusive or offensive behaviour, making it challenging to label because there is a degree of subjectivity involved. [43] Lastly, some abusive or offensive content is intentionally obfuscated with, for example the use of symbols rather than letters, making it hard for AI detectors to identify. [43]

Clarity

"There's a lot of a swell of public interest in / and fascination for AI, but right now I don't think it's clear that we actually know what we mean when we say AI, especially in public discourse. It's important to understand the differences and the varying concerns at play when it comes to all these different types of AI because they all are touching on various ways of how we exercise our fundamental rights as human beings."

WENDY WONG

One of the current challenges is a lack of clarity, especially within public debates, about what constitutes AI. There are a host of technologies that fall under its umbrella—large language models, neural networks, generative adversarial networks, natural language processing, machine learning—that lead to a range of applications, from conversational agents and synthetic content to facial recognition and self-driving cars.

An all-purpose AI—what is known as **artificial general intelligence (AGI)**, which could accomplish a broad range of tasks in the same way humans can —is still believed to be a distant prospect, meaning current AI-enabled tools need to be considered individually. All hold different potential and opportunities, as well as different challenges and concerns.

Technology

"It's important to be mindful about how much our vision of how politics works is now totally intertwined with computers. We are so convinced that politics is computational. When new computer technology comes about, we think of it as a very radical disruption of how politics works."

FENWICK MCKELVEY

Relying on data about people to try and understand their preferences and predict their political choices is not new. Neither is using computation technologies to track and analyze this data, which dates back to the 1960s. **Microtargeted** advertising has been around since at least the 1970s, while the use of opinion polls to gauge public sentiment goes back to the 1824 U.S. presidential election, where telegram messenger tallies showed Andrew Jackson leading John Quincy Adams. [44] Technological exceptionalism—the tendency to see the challenges of a new technology as fundamentally new and unprecedented—has the potential to blind people to the fact that a particular challenge or strategy or opportunity has been around for much longer.

Trust

"People believe fake content. It will change how someone votes. It will change how someone thinks about a particular politician. There's actually the risk of this misinformation and disinformation being believed. But the larger issue is how it dilutes our trust in images and videos."

SUZIE DUNN
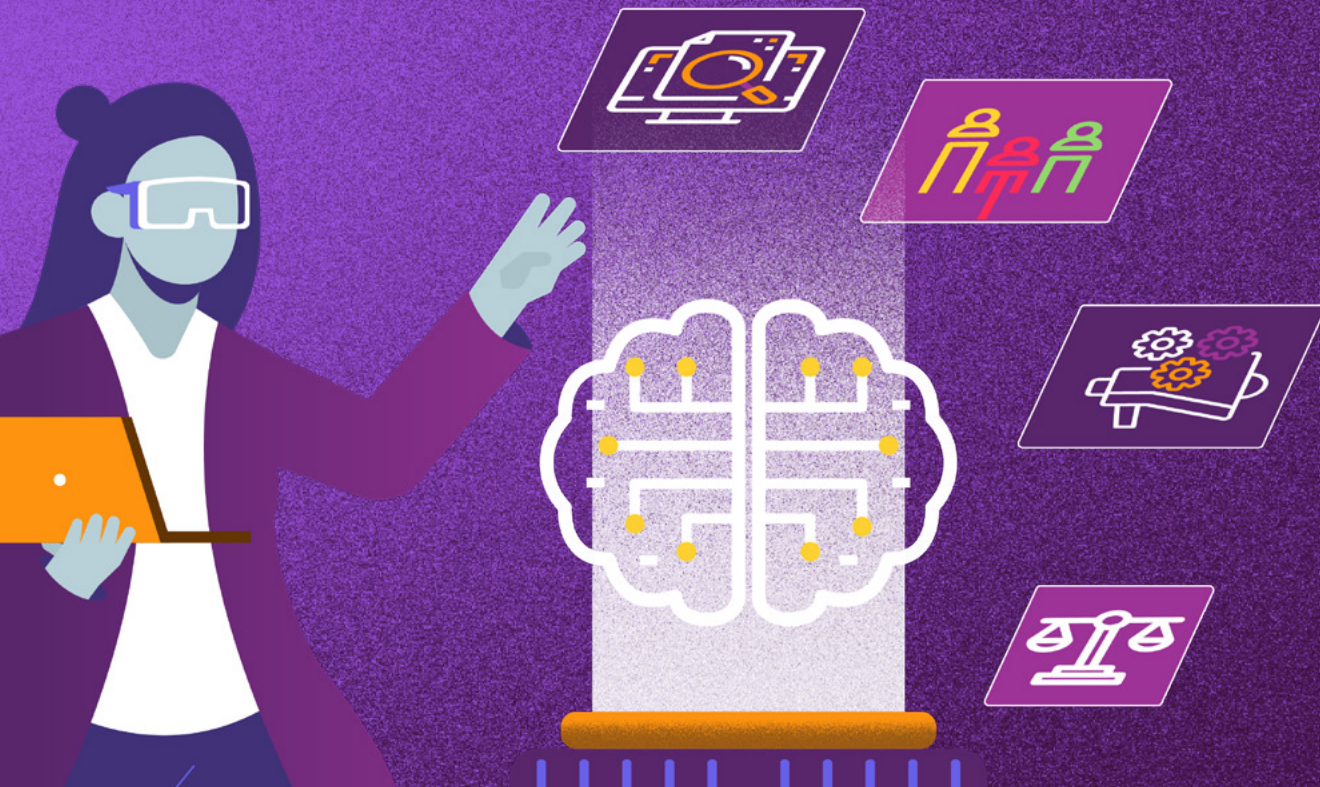
At the heart of many concerns around AI is a simple fact: People believe fake content. AI-enabled tools are capable of creating content that is realistic enough to fool a lot of people. A first concern is that, in response, people will change their opinions, their positions on issues, and how they vote. A bigger consideration, however, is that the inability to distinguish fact from fiction has the potential to dilute our trust, not just in images or videos or in the news media, but in our institutions and in each other. AI-generated content has destabilized our confidence in the age-old adage that "seeing is believing."

Responsibility

"We're going to be struggling for the next few years on how to define what we think is harmful. How do we regulate it? What is harm? What crosses the line? And when do we regulate? When do we create safeguards that allow for some protections around some of these potential harms ... when we don't actually know what they are just yet?"

SAMANTHA BRADSHAW

As humans are increasingly removed from the equation, there are critical concerns around the level of autonomy and agency given to AI-systems, and what that means in terms of assigning responsibility. [37] Who is responsible for the decisions made by AI-enabled tools? This question goes in both directions. On the one hand, who takes credit for the work AI does? Who is the author or artist or creator of synthetic content? On the other hand, who takes the blame when things go wrong? Who is the decision-maker? Who is held accountable?

Many of the proposed solutions to the above issues come in the form of legislation, regulation, and governance. These present problems of their own. First and foremost, AI development and deployment is a global enterprise, crossing borders and jurisdictions, making the rule of law difficult to implement and enforce at national level. [3] Additionally, not only do different jurisdictions exist each with their own set of laws, but also with their own cultural contexts, including differing political structures, differing understandings of free speech, differing beliefs about what is considered to be harmful or offensive, and differing knowledge of and access to technology. How then can big tech and social media platforms regulate their own systems in a way that addresses these myriad variations?

Who decides what the definition of harm or slander or privacy or discrimination is? Who determines where consent is warranted and what it means to consent?

This question of responsibility also extends to preemptive measures. Even if we are able to identify the potential issues and harms that could arise from the implementation of AI-enabled systems, questions arise related to if, when, and how humans intervene. Whose responsibility is it to prevent harm? Is it those who build the systems? Those who finance them? Those who run them? Those who use them? Or is it the responsibility of governments?
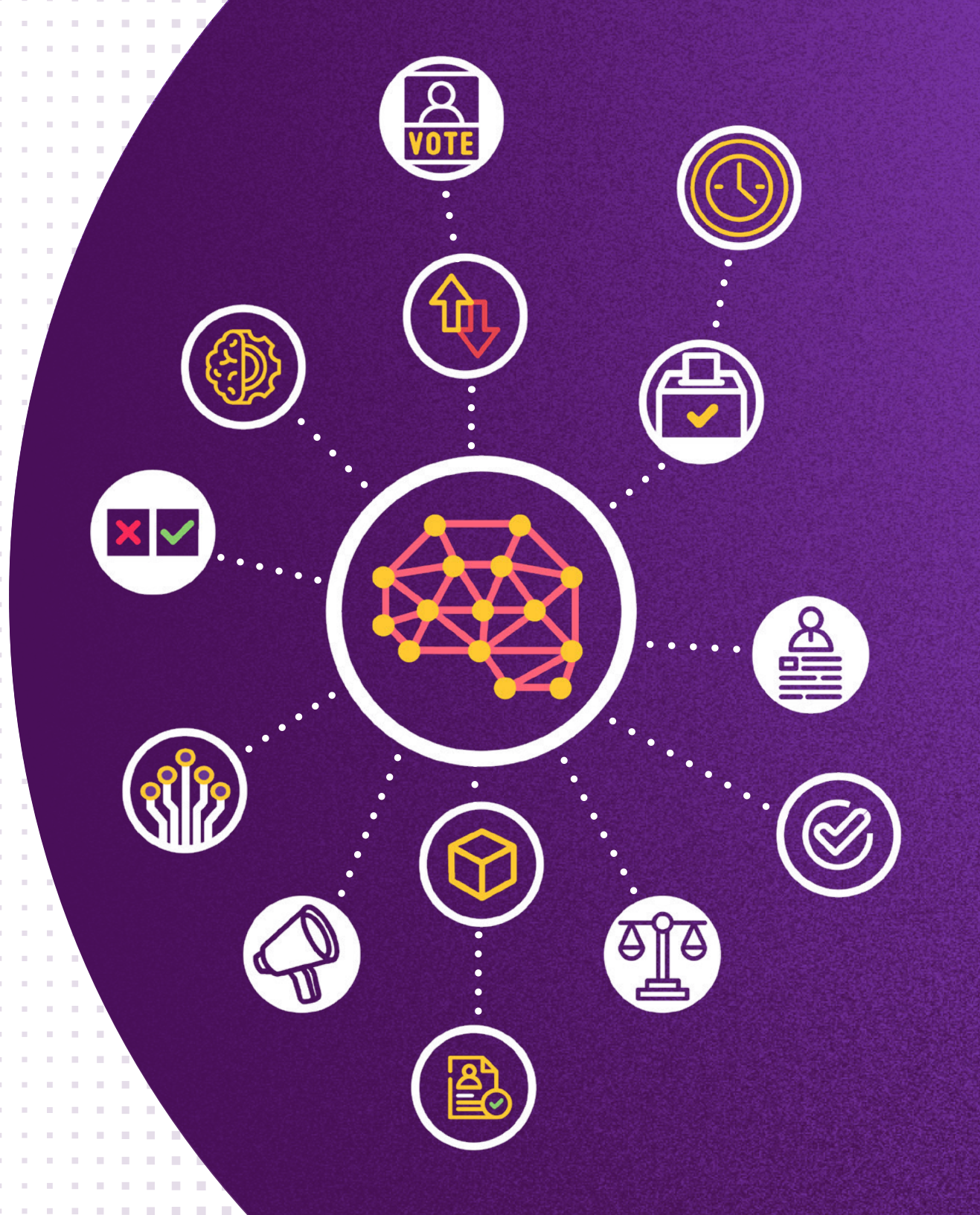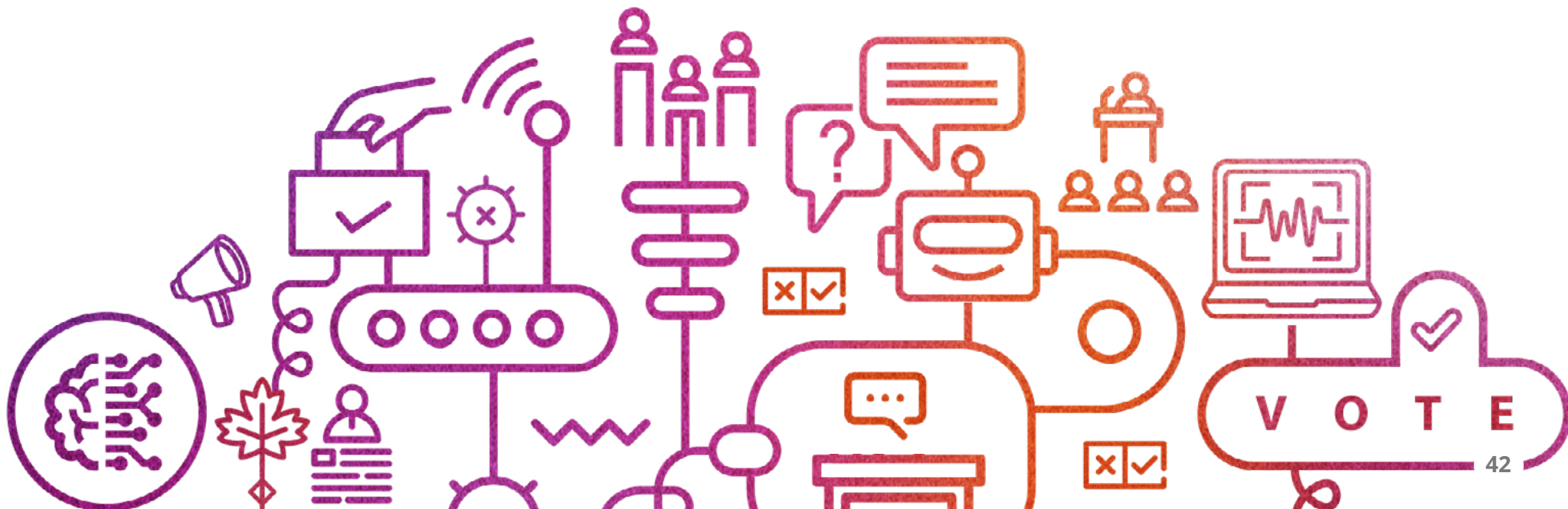
The bigger picture

"We need to think about how AI fundamentally changes our human experiences. It's not just about harm, but it's about our lives more generally. How can we–especially in a democracy like Canada–be effective and engaged citizens if we cannot really be sure of what we're looking at and seeing?"

WENDY WONG

Being an informed citizen includes the ability to know what the right choice is for you, as an individual. This is determined by a number of factors, including our education, a range of literacies, and what kinds of information we're exposed to. The things we read, see and hear all affect our perceptions of our world. We need to consider how information quality changes the way we see ourselves as individuals and our societies, how we engage with each other and how we exercise our rights.

WHAT'S NEXT?

The deployment of AI in our social systems is a Collingridge dilemma playing out in real time: new technologies are easier to regulate and control, but you don't really know the full impacts until they are fully deployed, at which point it is too late to implement the regulations or controls that are actually required. [37, 45]

Nevertheless, researchers, policy makers and civil society groups worldwide are deeply engaged with how to manage the seismic social shifts that are coming along with AI-enabled technologies.

WE ASKED OUR EXPERTS:

IN TERMS OF AI, WHAT DO YOU EXPECT IN THE NEXT ELECTION IN CANADA?

Samantha Bradshaw: I think a lot of the disinformation or misinformation that we're going to be see might have been generated through AI-based applications. And I think we're going to see **platforms updating their policies** around synthetic media, and other kinds of policies around AI generation in the lead up to elections.

Wendy Chun: The **increased use of divisive issues to create angry clusters**. What's key is that these clusters, often focused around seemingly niche issues, are strung together to form larger clusters. So ... a proliferation of micro divisions, and a linking of them all together in order to form majorities of anger.

Suzie Dunn: I think in our coming elections, they're going to end up **having debunkers as part of election campaigns and staff**, who are going to be scouring the internet for fake content, fake videos, fake voice detections. There's going to be a lot of interest in the type of tech available to detect the difference between real and fake videos and that there's going to have to be clear strategies on how political parties are going to be able to prove what content is real and what content is fake.

Fenwick McKelvey:
I think an important test will be whether parties advertise using artificial intelligence as part of their war room showcasing, **whether we've entered a moment where AI really has swung from something that's cool to something that we're worried about**. I think it'll be very interesting to see how AI is framed as a policy issue: whether we'll see an uptake in these very tangible, clear, accepted issues, related to the problems with AI or if we're going to be left constantly debating whether we live in the next version of The Terminator.

Wendy Wong:
What I hope is that we talk more about how AI fits into the national strategy; there's a pan Canadian AI strategy. We have some of the most prominent AI researchers in the world working in Canada. I think **it's time that we as data subjects become data stakeholders**, and one of the things that I'm hoping the government brings into play is thinking about digital literacy in a very serious way, which is helping all of us decipher what the machine is doing, and how we can change the terms of that co-existence.

Elizabeth Dubois:
Innovative uses of AI in political communication and campaigns highlight the role humans play in creating and using these tools. Sometimes we're tempted to think of AI as independent entities with agency. **While these tools have some decision-making ability, they are designed by humans, built by humans, and trained by humans**. So it follows that, as humans, we can also choose how we want to use these tools, what guardrails to put up, and how to make these systems transparent and equitable.

About our experts

In April 2023, the University of Ottawa's PolCommTech Lab and the AI + Society Initiative (an initiative of the Centre for Law, Technology and Society) held a roundtable discussion on artificial intelligence and Canadian politics. Joining the conversation was an interdisciplinary panel of experts from the fields of politics, public policy, and new technologies, who helped break down how artificial intelligence is being deployed within the Canadian political context.

Elizabeth Dubois (host)

Dr. Elizabeth Dubois (PhD, University of Oxford) is an Associate Professor and University Research Chair in Politics, Communication and Technology at the University of Ottawa where she runs the Pol Comm Tech Lab and is a member of the Center for Law, Technology and Society. She is also a Faculty Associate and former Fellow at the Berkman-Klein Center at Harvard University and an Affiliate at the Center for Information, Technology and Public Life at University of North Carolina. Her work examines political uses of digital media, including artificial intelligence, political social media influencers, and online harassment of public figures. She hosts the Wonks and War Rooms podcast where political communication theory meets on the ground strategy. Check out her latest edited book, Citizenship in a Connected Canada.

Samantha Bradshaw

Dr. Samantha Bradshaw (PhD, University of Oxford) is an Assistant Professor of New Technology and Security in the School of International Services at American University, a faculty member at the Center for Security, Innovation and New Technology (CSINT), and a fellow with the Centre for International Governance Innovation (CIGI). Her area of expertise is in the relationships between technology, politics, and power, and in particular how technology can enhance or constrain democracy.

Wendy Hui Kyong Chun

Dr. Wendy Hui Kyong Chun (PhD, Princeton University) is a Professor in the School of Communication and the Canada 150 Research Chair in New Media at Simon Fraser University. She is also the Director of the Digital Democracies Institute, where she leads the Data Fluencies project. Her most recent book is Discriminating Data: Correlation, Neighborhoods, and the New Politics of Recognition (MIT Press, 2021).

About our experts

Suzie Dunn

Dr. Suzie Dunn (PhD, University of Ottawa) is an Assistant Law Professor in the Schulich School of Law at Dalhousie University and a senior fellow with the Centre for International Governance Innovation (CIGI). She previously served as a policy advisory with the Digital Inclusion Lab at Global Affairs Canada. Her research looks at the intersections of law, technology, gender and equality, including deep fakes and digital impersonation.

Fenwick McKelvey

Dr. Fenwick McKelvey (PhD, Ryerson University/ York University) is an Associate Professor in communication studies at Concordia University, and co-director of the Applied AI Institute. He leads the Machine Agencies project at the Milieux Institute, and is author of Internet Daemons - Digital Communications Possessed (University of Minnesota Press, 2018). His research focuses on digital politics and policy.

Wendy H. Wong

Dr. Wendy H. Wong (PhD, University of California, San Diego) is a Professor of Political Science and Principal's Research Chair at the University of British Columbia, Okanagan. She was previously the director of the Trudeau Center for Peace, Conflict, and Justice at the Munk School of Global Affairs and Public Policy. She specializes in global governance, emerging tech, human rights, and civil society, and is the author of We, the Data: Human Rights in the Digital Age (MIT Press, 2023).

You can watch a recording of the event or listen to the audio on the *Wonks and War Rooms* podcast.

▶ WATCH   or   🎧 LISTEN

GLOSSARY

TERM	DEFINITION
AI content detection PG. **17** PG. **25**	AI content detection tools are most widely used to "detect and to differentiate between AI-generated and human-written texts," but are now also being developed to identify other AI-generated content, such as deep fakes, audio or images. **READ ORIGINAL SOURCE**
artificial general intelligence (AGI) PG. **37**	Current applications of AI are specific to particular tasks, for example playing chess or driving a car or producing an image. "Human intelligence is much broader than that. We possess memory and common sense, which we use in order to make sense and take action in a continuously evolving and uncertain environment. We also have feelings and emotions that drive our actions and our interpersonal relations. Current AI systems are nowhere near that level." While still theoretical, an intelligent system that has "capabilities comparable to, or even surpassing, those of human brains" is known as artificial general intelligence. **READ ORIGINAL SOURCE**
augmented analytics PG. **8** PG. **11** PG. **12** PG. **14** PG. **18** PG. **22** PG. **27** PG. **28**	An approach to data analytics that uses the use of machine learning and natural language processing to automate analysis processes normally done by a specialist or data scientist. **READ ORIGINAL SOURCE**

GLOSSARY

TERM	DEFINITION
automated decision-making (ADM) PG. **7**	Automated decision-making is the practice of "allowing computers to make decisions using algorithms. It can include decision-support systems with different degrees of human involvement in the decision-making process, as well as fully automated systems without any human involvement." **READ ORIGINAL SOURCE**
black box PG. **34**	AI black boxes refer to "AI systems with internal workings that are invisible to the user. You can feed them input and get output, but you cannot examine the system's code or the logic that produced the output." **READ ORIGINAL SOURCE**
bot PG. **7** PG. **26** PG. **29**	Bots are "automated software programs that mimic human behaviour." They can "interact with humans, algorithms, and even other bots. The use of political bots began with the simple automation of tasks, such as pre-scheduled posting on social media, but has advanced into creating automated accounts that can interact with various datasets, platforms, and other accounts." **READ ORIGINAL SOURCE**
chatbot PG. **7**	A type of conversational agent, chatbots are "intelligent conversational computer systems designed to mimic human conversation to enable automated online guidance and support." They normally accept natural language text as input, and provide written text as an output. **READ ORIGINAL SOURCE**

GLOSSARY

TERM	DEFINITION
conversational agent (PG. **7**) (PG. **9**) (PG. **11**)	A conversational agent is also known as a dialogue system, which is "a computer program that supports spoken, text-based, or multimodal conversational interactions with humans." **READ ORIGINAL SOURCE**
credibility indicators (PG. **24**)	Often seen in social media or news content, credibility indicators use "user interface (UI) elements, such as icons and text, to provide cues regarding the credibility of information." **READ ORIGINAL SOURCE**
datafication (PG. **31**) (PG. **32**)	Datafication refers to the "imperative to capture all data, from all sources, by any means possible influences many key decisions about business models, political governance, and technological development." This imperative is motivation for actively creating data, which "entails the (total) datafication and surveillance of people, places, processes, things, and relationships among them." **READ ORIGINAL SOURCE**
deep fakes (PG. **10**) (PG. **13**) (PG. **19**) (PG. **20**) (PG. **22**)	Deep fakes are "media manipulations that are based on advanced artificial intelligence, where images, voices, videos or text are digitally altered or fully generated by AI. This technology can be used to falsely place anyone or anything into a situation in which they did not participate–a conversation, an activity, a location." **READ ORIGINAL SOURCE**

GLOSSARY

TERM	DEFINITION
generative AI 	Generative AI is "an umbrella term used for AI systems that can generate new forms of data. Often by applying variations of machine learning to large quantities of training data. This output can be multimodal and include text, visuals, and audio. Often, this is done indistinguishable from content created by other, or human, means." **READ ORIGINAL SOURCE**
image synthesis 	Image synthesis is the process of using generative AI to create a synthetic image via an AI image genrator. They can be referred to as text-to-image synthesis or text-to-image generation. **READ ORIGINAL SOURCE**
large-language models (LLM) 	A language model is "a statistical representation of a language, which tells us the likelihood that a given sequence (a word, phrase, or sentence) occurs in this language. Due to this capacity, language models can be used to make predictions about how a sentence might continue and, consequently, to generate text." Thanks to computational power, very large, and increasingly sophisticated, language models can be now created, and generate text that is almost indistinguishable from human-generated content. **READ ORIGINAL SOURCE**

GLOSSARY

TERM	DEFINITION
machine learning (algorithms) PG. **7** PG. **8** PG. **11** PG. **12** PG. **14** PG. **18** PG. **25** PG. **26**	Machine learning provides the ability to "create a mathematical model based on training data. After being shown a large number of items, the algorithm is able to classify objects that are not in the training set." **READ ORIGINAL SOURCE**
machine learning models PG. **26**	A machine learning model is "a mathematical representation of a system that can learn from experience and make predictions or decisions based on input data." **READ ORIGINAL SOURCE**
microtargeting PG. **18** PG. **38**	"Online" political microtargeting involves monitoring people's online behaviour, and using the collected data, sometimes enriched with other data, to show people-targeted political advertisements. **READ ORIGINAL SOURCE**
natural language processing (NLP) PG. **7** PG. **8** PG. **9** PG. **11** PG. **13** PG. **25** PG. **26**	Natural language processing, a subfield of artificial intelligence, gives computers the "ability to comprehend, interpret, and generate human language." This provides possibilities for political discourse analysis, sentiment analysis, topic modelling, text categorization, and machine translation algorithms. **READ ORIGINAL SOURCE**

GLOSSARY

TERM	DEFINITION
natural-language generation (NLG) PG. 22 PG. 25	Natural language generation is "the process wherein computers produce text-based output in readable human languages." This can be used to generate reports, news articles, or other written text, can be used to generate political speeches, and is used by bots to generate social media content. **READ ORIGINAL SOURCE**
sentiment analysis (opinion mining) PG. 14 PG. 15 PG. 22 PG. 25 PG. 27 PG. 28	Sentiment analysis, also called opinion mining, is "the machine learning process of analyzing text (social media data, news articles, emails, etc.) to assess the polarity of opinions (positive to negative mood) and emotion, topic, tone, etc." **READ ORIGINAL SOURCE**
social listening PG. 22 PG. 25 PG. 35	Social listening is the practice of using "publicly available social media commentary to explore attitudes and lived experiences of consumer, community members and citizens. In turn, this data can be analysed to determine preferences for specific policy and the processes to achieve desired policies outcomes." **READ ORIGINAL SOURCE**
speech synthesis (synthetic audio) PG. 10 PG. 19 PG. 20 PG. 21	Speech synthesis is the "artificial production of human-like speech." This often includes converting text to audio, known as text-to-speech (TTS), to create voices for accessibility, entertainment or voice assistants. **READ ORIGINAL SOURCE**

GLOSSARY

TERM	DEFINITION
synthetic media (synthetic content) PG. 9 PG. 11 PG. 12 PG. 13 PG. 15 PG. 16 PG. 17 PG. 19 PG. 20 PG. 22 PG. 25 PG. 35	Synthetic media, also called synthetic content, is "computer-generated content that is created by employing artificial intelligence technologies," in order to "create synthetic likenesses, personalities, and entire environments solely by way of digital technologies." READ ORIGINAL SOURCE
synthetic images (image synthesis) PG. 9 PG. 17 PG. 18 PG. 19 PG. 21	*See image synthesis*
synthetic text PG. 17	*See natural-language generation*
synthetic video PG. 10 PG. 18 PG. 19 PG. 20 PG. 21 PG. 25	Synthetic video is any type of AI-generated video created without the use of cameras or sound recording, accomplished by "the generation of photo-realistic images, cloning of voices, and animation of face.". While this often refers to deep fakes, it can also include animating still images, or having lifelife presenters read textual content. READ ORIGINAL SOURCE
virtual assistant (AI assistant, digital assistant) PG. 13	A virtual assistant is "an intelligent application that can perform tasks or provide (AI services for a person responding to orders or inquiries. Users may use voice commands to request their VA to answer the questions, manage home appliances, control media playing, and handle other essential activities like email, creating the actions lists, and organize the meetings on calendars." READ ORIGINAL SOURCE

GLOSSARY

TERM	DEFINITION
voice assistant PG. **13**	*See virtual assistant.*
voice cloning (audio deepfake) PG. **11** PG. **17** PG. **20**	While often used as an assistive technology for those who have lost their voices, in the political context, voice cloning, also called an audio deepfake, is the practice of using artificial intelligence and algorithms to create convincing copies of people's voices. **READ ORIGINAL SOURCE**
web scraping (web harvesting, or web data extraction) PG. **14**	Web scraping is the practice of "using technology tools for automatic extraction and organization of data from the Web for the purpose of further analysis of this data." **READ ORIGINAL SOURCE**

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