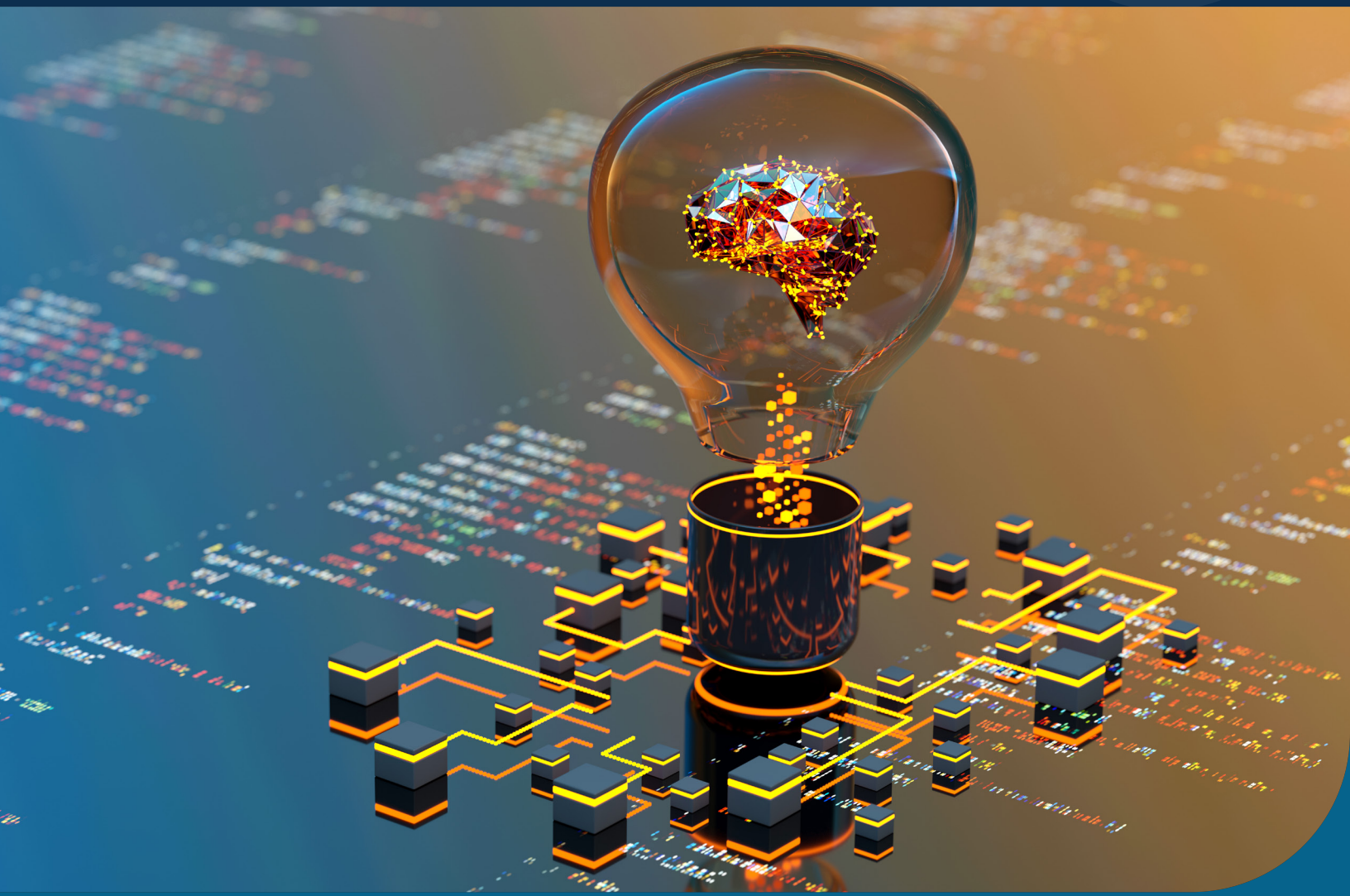
# LEVERAGING AI FOR DEMOCRACY

## CIVIC INNOVATION ON THE NEW DIGITAL PLAYING FIELD

// BETH KERLEY / CARL MILLER / FERNANDA CAMPAGNUCCI



NED NATIONAL ENDOWMENT FOR DEMOCRACY
SUPPORTING FREEDOM AROUND THE WORLD

FORUM INTERNATIONAL FORUM FOR DEMOCRATIC STUDIES

// REPORT / OCTOBER 2024

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# EXECUTIVE SUMMARY

What would it mean to put AI to work for democracy? AI tools from chatbots to video surveillance systems have touched off a paradigm shift in civic life, yet this transformation is far from guaranteed to favor democratic outcomes. While AI advances offer real opportunities to activists, journalists, and other key democratic actors, resource and informational asymmetries tilt the playing field against them. To better their odds in a fluid technological environment, systematic thinking about how to design AI tools that serve democratic principles is needed. The following collection outlines possible elements of a prodemocratic vision for AI technologies.

An overview essay by **Beth Kerley** based on insights from the International Forum for Democratic Studies' expert workshops reflects on the challenging landscape that confronts organizations seeking to deploy AI tools. **Fernanda Campagnucci**, spotlighting the work of Open Knowledge Brasil (OKBR), explores how AI advances are creating new opportunities for citizens to scrutinize public information. Finally, Demos's **Carl Miller** sheds light on how AI technologies that enable new forms of civic deliberation might change the way we think about democratic participation itself.

Key ideas:

- **Making AI work for democracy requires strategic engagement.** Commercial AI tools are not optimized for civic purposes, and authoritarians are actively promoting undemocratic visions of tech-enabled governance. To leverage AI for democracy, civil society must identify avenues to engage with digital design proactively.
- **Civil society should approach AI tools mindfully, rather than chase the trend.** Not all projects are well suited for incorporating AI. Where they are, lower-lift AI tools may sometimes make more sense than the most cutting-edge systems. Community-wide thinking about knowledge sharing, capacity building, and strategic partnerships will be key in positioning prodemocratic civil society to make beneficial use of AI.
- **AI tools can help civil society to do more with data.** From anticorruption monitors to investigative journalists, accountability advocates looking for patterns in large volumes of data can leverage AI technologies to work more effectively with limited resources.

- **Rapid technological evolution will continue to change the AI landscape.** AI tools that process natural human language more adeptly are now enabling civic technologists to engage with public information in novel ways, as well as making it possible to organize public consultations more cheaply and at scale. In the future, agentic systems, multimodal models, and other advances present new civic possibilities.
- **Tech advances open the door to democratic innovations.** AI technologies can expand existing lines of work, but they may also enable fundamentally new forms of civic engagement. AI-assisted deliberation, for instance, offers new ways for civic associations, political parties, or social movements to make decisions with input from members. As Carl Miller notes, leveraging AI's potential "will require fresh thinking not just about new technologies, but political innovations to make them meaningful."

"For the constellation of prodemocratic donors, journalists, advocacy groups, and grassroots activists seeking to find their footing on this rapidly shifting terrain, the time for intentional thinking about leveraging AI for democracy is now."

# AI FOR CIVIL SOCIETY: TILTING THE BALANCE

// BETH KERLEY

In February 2024, Belarus's authoritarian regime held tightly controlled parliamentary elections in the wake of a brutal crackdown that has largely driven opposition underground or out of the country. To satirize the lack of real choice, the prodemocratic opposition decided to field a chatbot "candidate" called Yas Gaspadar. Svitlana Tsikhanouskaya, the opposition's leader and widely acknowledged winner of the disputed 2020 presidential election, explained: "Frankly, he's more real than any candidate the regime has to offer. And the best part? He cannot be arrested!"[1] And in Kenya during the early summer of 2024, protesters against the government's attempts to force through a widely loathed tax-raising Finance Bill developed a custom AI tool to share information about the bill and its impacts, as well as another focusing on wrongdoing among the political class—"Corrupt Politicians GPT."[2]

As AI technologies advance, the parameters for democratic activism are changing. The civic actors behind the innovations described above seek to compete on an unsteady digital terrain. Like social media tools before them, **generative AI models have touched off a paradigm shift in communications strategies and competencies**. Yet this shift represents only one dimension of the transformation sparked by AI's growing role in public life—a transformation that is far from guaranteed to work in democracy's favor.

With AI tools from chatbots to video surveillance systems finding purchase in regimes of all political hues, new threats to personal freedoms, democratic norms, and civic space are emerging. In the information domain, **generative AI tools produce increasingly convincing facsimiles of real people, places, and events**, forcing us to fundamentally rethink our assumptions about audio and video content. In governance, **the data-driven techno-authoritarian model** pioneered by the People's Republic of China (PRC) makes an alluring promise of stability without the critical but complex policy interventions and messy public debate that democratic models afford. In stark contrast to the optimism that greeted the political advent of social media, a raft of commentators are parsing AI threats to democracy. To better the odds for prodemocratic actors in a fluid technological environment, systematic thinking about how to make AI work for democracy is needed.

## WORKING AT A DISADVANTAGE

At the core of many anxieties around AI are what prominent critics view as **fundamental power asymmetries**. A handful of deep-pocketed tech companies, mostly based in Silicon Valley or the PRC, lead the resource-intensive training of "foundation models" for tools like Open AI's ChatGPT and Anthropic's Claude. One stage down the pipeline, well-resourced corporate and government actors with privileged access to large datasets have an edge in building custom AI applications and putting them to work. When such institutions use AI technologies to make important decisions, new challenges arise for citizens seeking to hold them accountable, since it can be functionally impossible to trace the specific pathways by which these complex tools arrive at particular conclusions.[3] At stake, then, are both the public's empowerment vis-à-vis state and corporate actors, and the agency of humans in general vis-à-vis systems upon which we depend, yet do not fully understand.

To better the odds for prodemocratic actors in a fluid technological environment, systematic thinking about how to make AI work for democracy is needed.

What can be done to shift these dynamics in favor of civil society, the public at large, and democratic norms that demand meaningful checks on power? Commentators have offered a range of visions when it comes to what it might mean to "democratize" AI. Some tout the benefits of **making models open-source**—as with Meta's large language model (LLM) Llama 3.1 or Hugging Face's Bloom—thereby allowing members of the public to explore how they work as well as refine them for custom purposes. Yet this approach has sparked debate among democracy advocates: While some welcome the promise of increased transparency and the diffusion of power, others fear that making models open will be a gift to malicious actors who seek to launch cyberattacks, produce deepfakes, or otherwise circumvent safety guardrails.[4]

Some analysts instead emphasize themes of **participation and deliberation** as central to a democratic vision for AI. The Collective Intelligence Project, for instance, recently put forward a set of proposals that emphasized on the one hand making AI development and governance more participatory, and on the

other leveraging AI to enhance and transform wider democratic deliberation.[5] Meanwhile, others take a geopolitical view of democratic AI. OpenAI's Sam Altman, for instance, has called for a **"coalition of like-minded countries"** to secure the lead in AI development and shape its governance globally.[6]

Underlying these debates is a fundamental recognition that AI development in a direction which advances democracy cannot simply be taken for granted. One implication, addressed in the International Forum's prior report *Setting Democratic Ground Rules for AI*, is that democratic societies are in urgent need of inclusive discussions and processes around AI governance.[7] But whether civic activists, democratic politicians, and others are positioned to leverage AI for democratic principles effectively—to deepen civic participation, ensure government transparency, promote human rights, and more—will also shape the balance of power in this emerging landscape. **To what extent can prodemocratic actors employ AI to compete against autocrats, kleptocrats, and rights violators who themselves take full advantage of the latest digital tools?** In the face of entrenched asymmetries of resources, capacity, and information, the democracy community must adopt a multi-level approach to capitalize on AI capabilities.

AI development in a direction which advances democracy cannot simply be taken for granted.

## AI'S PRODEMOCRATIC POTENTIAL

**In December 2023, a cross-regional group of researchers, journalists, and activists gathered at an International Forum for Democratic Studies workshop to discuss innovative strategies for making AI part of a positive vision for tech-enabled democracy**. As these discussions highlighted, generative AI tools as well as more traditional machine learning (ML) tools for statistical analysis have a wide range of possible applications in the civic sphere. They can both **accelerate existing processes and lines of work**—helping resource-strapped organizations to do more with less—and **enable qualitatively new approaches**.

AI tools, for instance, can help newsrooms and advocacy groups with targeting content to the desired audiences; support trainers in fielding common questions from volunteers for tasks like election monitoring; or hasten the process of media monitoring, whether online or on television. They can support new modes of civic deliberation, whether by helping digital communities to set their own custom rules for online conversations or by distilling actionable takeaways from diverse participant contributions to participatory democracy processes.[8] As highlighted in a recent study by the Friedrich Naumann Foundation, they can also increase accessibility in public services, map and forecast trends in civic space, simplify document access within legislatures, and much more.[9]

As we saw in Haykuhi Harutyunyan's contribution to the Forum's previous essay collection, *The Digitalization of Democracy*, AI tools hold particular promise where

under-resourced civic actors are seeking to make sense of large datasets. In the open government space, AI can enable watchdog groups to sift through troves of public data more rapidly, identifying red flags that point to corruption.[10] Investigative journalists can uncover illegal mining using satellite imagery, or tease out relevant patterns from leaked files like the Panama Papers.[11] For human rights activists, AI object recognition can help accelerate the process of identifying war crimes in video from conflict zones.[12]

**Rapid technological advances continue to transform the landscape of the possible when it comes to civic AI.** Generative AI applied to video, for instance, makes possible creative anonymization techniques that shield victims in documentary content without sacrificing emotional impact.[13] Advances in natural language processing (NLP) are enabling researchers to work more directly with *unstructured textual data*, meaning they can use AI to draw conclusions from plain-language text rather than having to organize information beforehand in a fixed schema (such as a database). Looking ahead, multi-modal models—which can process different types of inputs such as video, text, and images—will make it easier to leverage AI for tasks such as monitoring broadcasts of legislative proceedings. Agentic systems—models that can interface with other systems and complete multi-step tasks with limited direct supervision—have the potential to partly automate time-intensive work such as filing freedom of information requests.[14]

# LEVELING UP

From investigative journalism to civic deliberation, **thoughtful uses of AI can change the game for civic actors working with limited resources to advance democratic norms.** Yet leveraging this potential will require intentional strategies to overcome the resource and informational asymmetries that surround AI development and tech development more broadly. As with social media platforms, commercial AI systems are not optimized for civic purposes.

How, then, can civil society practitioners position themselves to not only take maximum advantage of off-the-shelf AI products, but proactively develop tools that serve their particular constituencies, goals, and values? Leveling up capacity presents challenges at the levels of decision making within individual organizations, and for the democracy support community as a whole. Among the critical questions to be addressed are:

- **Where does AI use make sense?** Within the broad domain of civic work, what specific tasks or activities might benefit from incorporating AI tools? Which tasks would on the contrary be too risky or cumbersome to approach in this way? While the democracy community should be alert to new opportunities from AI advances, a mindful approach is critical to ensure that implementers do not find themselves sacrificing privacy, security, or even efficiency in order to chase the trend. Applications in sensitive areas like the

legal sphere, where AI bias presents particular risks, may require extra scrutiny from a human rights lens. In other cases, designing a custom tool suitable for a one-off project may simply take more time than strategically approaching the same task using human labor. As AI projects proliferate, knowledge-sharing across civil society sectors can help to identify tasks where AI technologies add value—as well as highlight, on the model of the Civic Tech Field Guide's "civic tech graveyard," key pitfalls from past projects and tasks for which AI tools may be a mismatch.[15]

- **What tools match the organization's needs and capacities?** Although generative AI systems like ChatGPT, Dall-E, and Sora are stealing the show when it comes to popular attention, they are not the only types of AI or automated systems that warrant attention from civil society groups. In the Forum's workshop, participants emphasized that simpler, less resource-intensive tools that are developed in-house more easily are still suitable for many tasks. For instance, one participant's organization used graph algorithms to identify corruption in procurement. Statistical ML tools that predate today's "foundation models" have enabled groundbreaking data journalism.
- **How can civil society actors build capacity on AI?** What partnerships, knowledge, resources, internal investments, and donor support will level up civil society organizations' ability to design, refine, and deploy AI systems most effectively? Some workshop participants stressed the benefits of building capacity (e.g., coding knowledge) among existing staff, who will have the greatest understanding of an organization's needs and mission. On the other hand, civil society project leaders may consider cooperating with university researchers, volunteer coders, hack collectives, or private sector tech-for-good initiatives. Each of these avenues requires addressing possible misalignments: For example, university researchers may operate on different timelines than organizations seeking to address real-world problems. Private-sector collaborators and their civil society partners may clash on questions of intellectual property and data ownership. A broader question is whether fundamentally new support structures for the civil society sector, such as a clearinghouse on AI projects and resources, are needed to help accelerate learning.
- **Which roles in AI design fit the organization's profile?** Optimal modes of engagement with the AI design process will vary depending on the orientation and technical skillset of different organizations. Groups with strong in-house technical capacities, for instance, may benefit from developing small-scale AI tools of their own. Fine-tuning publicly available LLMs (which are too resource-intensive for most CSOs to realistically consider developing independently) is another, increasingly accessible option. Alternatively, some organizations have identified opportunities to feed into the AI design pipeline at the data curation stage. Working independently or partnering with local communities, civil society can gather data and build datasets that will in turn be used to train AI tools tailored to issues of public concern—especially in the global majority, where commercial tools frequently fail to reflect local contexts.

# VISIONS OF PRODEMOCRATIC AI

The following contributions, drawn from participants in the Forum's December workshop, outline two different pathways toward a prodemocratic vision for AI.

In **"From Data Deserts to AI Oceans," Fernanda Campagnucci** offers an example of how AI advances are transforming existing directions of prodemocracy work. In the open government space, government watchdogs and select civic organizations have previously experimented with using AI to identify red flags and thereby prioritize efforts in corruption monitoring, relying on fixed-format, structured data such as government officials' expense reports. **The advent of AI tools better equipped to handle natural-language information (such as the free-form text of an article or a speech) makes possible more creative and adaptable approaches**. Campagnucci describes the potential implications of this shift, with a spotlight on how tech pioneer Open Knowledge Brasil is irrigating "data deserts" by making municipal gazettes available for machine processing. In such contexts, combining new AI technologies with established civil society efforts can help watchdog organizations work more effectively, open up new research directions, and deepen understanding of challenges to democracy.

**Carl Miller's** essay, **"Reclaiming Technology for Democracy,"** sheds light on how AI might enable fundamentally new forms of democratic participation. In the domain of civic deliberation—enabling members of the public to exchange views and formulate opinions that ultimately feed into policies—recent advances in AI language processing, once again, widen the frontiers of the possible dramatically. With earlier generations of AI—such as as the platform Polis, used most prominently by Taiwan's civic tech community—civic technologists leveraged the power of machine learning to design content curation algorithms that foreground points of consensus, making it easier to identify possible avenues for action.[16] **With LLMs, new capacities for summarization, moderation, and translation, among other tasks, hold the potential to facilitate tech-assisted deliberations at scale**.[17] These capacities, which are being tested for purposes that range from peacebuilding to writing rules for AI models, may create new connective tissue between an alienated public and decision making processes. Yet, as Miller observes, leveraging this potential will require fresh thinking about not just new deliberative technologies, but political innovations to make them meaningful.

The two pathways outlined in this collection—amplifying the work of existing civil society organizations and facilitating new forms of democratic practice—represent only a sampling of the possible approaches to tilt our emerging digital playing field back in democracy's favor. Another set of promising efforts centers around data: While open government groups consider how AI can make sense of existing public-sector data, organizations like the African feminist tech collective Pollicy (profiled in the Forum's forthcoming Q&A with Irene Mwendwa) are examining how data curation shapes the AI tools on which we rely.[18] Datasets

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that fail to represent women in politics, for instance, yield AI image generators that depict only male candidates, campaigners, and election officials. **By building data literacy and pushing for more meaningful inclusion in AI design, civil society can steer our commercial digital design ecosystem in directions that more readily encourage political participation**. Elsewhere, groups like Open Data Charter are thinking about strategies that will make AI tools trained predominantly on data from the Global North perform better in global majority settings. Through an intentional approach to data, civil society can support the design of both custom AI tools that work for specific causes and communities, and commercial AI tools that work better for democracy writ large.

The digital authoritarian system we see taking shape in the PRC is, by its nature, holistic—data from an ever-growing number of public and private sources feed into ever-more centralized systems that output the "correct" response to governance dilemmas. As data-driven technologies permeate our social and political worlds, AI tools will continue to offer governments around the world opportunities to convert pervasive surveillance into high-tech manipulation, automated policy prescriptions, and other technologies of social control—a tempting alternative to democratic competition. This model's advance poses fundamental challenges to democratic norms around freedom of speech, freedom of thought, and civic participation, already under siege globally in an era of democratic backsliding and authoritarian retrenchment.

In contrast to the totalizing impulse of techno-authoritarianism,[19] a democratic response will necessarily be pluralistic—the outgrowth of an assortment of diverse, bottom-up visions and initiatives for leveraging AI on the side of government transparency, human rights, political participation, and the wider set of democratic values. It must identify ways of engaging with technology that mitigate power and resource imbalances, empower citizens in holding institutions accountable, and center—rather than circumvent—human agency, deliberation, and connection. As AI development hurtles onward, with innovations such as agentic systems opening up new technological horizons, the opportunities available to civil society will continue to evolve. For the constellation of prodemocratic donors, journalists, advocacy groups, and grassroots activists seeking to find their footing on this rapidly shifting terrain, however, the time for intentional thinking about leveraging AI for democracy is now.

A democratic response to techno-authoritarianism must center—rather than circumvent—human agency, deliberation, and connection.

# FROM DATA DESERTS TO AI OCEANS

// FERNANDA CAMPAGNUCCI

In an era of rapid technological change, global democratic backsliding, and political polarization, democratic societies face a host of vexing challenges. To build public understanding of these issues and help democratic institutions arrive at well-informed, effective responses, high-quality data is essential. When governments make meaningful, open data on topics of critical popular interest publicly available, it empowers civil society, scholars, and other stakeholders to not only scrutinize the work of authorities, but also to find solutions and co-create policies collaboratively. In short, **open data helps to ensure that democracy delivers**.

Per the principles established by the international community one decade ago, making data open means that it "can be freely used, modified, and shared by anyone for any purpose."[1] While open data alone is not a panacea, its absence is a barrier to addressing our most pressing challenges, from information manipulation to climate change. Without access to accurate data, journalists cannot verify information in a timely manner. Researchers are less likely to uncover new insights that could help prevent or mitigate disasters and epidemics. Policymakers struggle to learn from the experiences of other jurisdictions, and citizens have fewer resources to examine existing inequalities in their communities or monitor their governments' activities.

Over the past decade, Open Knowledge Brasil (OKBR) has dedicated its efforts to advocating for open data from government entities in the country. As in many jurisdictions worldwide, although there has been some progress at the federal level, finding accessible and usable data becomes increasingly challenging in state or local governments. At these lower levels of governance, significant barriers confront those in search of data that can be readily incorporated into third-party analyses—a gap that can hinder democratic decision making on issues of public concern. These barriers have an outsized impact given Brazil's federal political system, in which more than 5,500 municipalities have autonomy to deliver public services and define policies in crucial fields such as the environment, housing, culture, and education.

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"Data deserts" is an expression that aptly describes the landscape in these cities, where open data for most sectors is lacking: Relevant information is invisible to our eyes, or at least out of our reach. Occasionally, a mirage appears—an open database, but without a proper format that allows for cross-referencing with other data or conducting analyses. To be effectively reusable, data must to be structured. In other words, data should be presented in formats where information is organized into fields with clear relationships and significance (like spreadsheets or other kinds of databases). In Brazil's municipalities, however, while systems used by public agencies are producing a growing volume of data, poor data governance make structured data relevant to topics of public interest scarce and difficult to access. A recent assessment by our organization shows that there is still a long road ahead in seeking to close these gaps. Even São Paulo, the largest metropolis in Latin America, did not clear the minimum bar for data openness.[2]

To work around the limitations of published data, organizations like OKBR have relied on freedom of information requests and bottom-up tactics, such as crowdsourcing, collective data mapping, and building citizen sensing technologies. These and other strategies, however, require us to devote tremendous effort and resources to cleaning and structuring datasets. **Thanks to recent advances in artificial intelligence (AI), we can now approach these challenges differently**.

The rapid evolution of AI tools is changing the game for government transparency work. **About seven years ago, we started to explore possibilities for automated data analysis and anomaly detection using AI to flag suspicious government transactions, irregularities, or potential instances of corruption**. These capabilities would allow civic organizations and government watchdogs to identify priority areas for investigation and monitoring. Still, we needed data sources to fit our statistical models. This requirement restricted our field of action to places where structured data were available, leaving the data deserts behind. Recent advances, particularly in "foundation models" and generative AI, are eroding these constraints, making it increasingly feasible to extract valuable insights from unstructured data.

# FROM STRUCTURED DATA TO NATURAL LANGUAGE

OKBR's experiences, and particularly two of our flagship projects—"Serenata de Amor" ("Love Serenade") and "Querido Diário" ("Dear Diary")—offer an illustration of how AI is transforming the open government landscape, and, as a result, opening up new possibilities for tech-enabled accountability work.

Serenata de Amor,[3] launched in 2016, is a pioneering project that uses machine learning, one of the foundations of mid-2010s AI, to monitor and classify the expenses of Brazilian Congressional representatives. By analyzing expense reports and receipts, the AI-powered system identifies potential indicators of dubious transactions, such as excessive spending on meals or travel. Despite its success as a reference in the field of civic AI, there are technical limitations to the scope and replicability of this project.

**Serenata was limited to monitoring a specific aspect of government spending—Congress members' expenses—based on a structured dataset**. The group of civic hackers who initially launched the project had to extract information from images of receipts published on the congressional website. In the face of public pressure for greater transparency, however, the legislature eventually began providing higher quality data through an application programming interface (also known as an API—a mechanism that enables third-party applications to retrieve information directly from a system and make use of the data it contains with near real-time updates).

This development sparked widespread enthusiasm for our approach, with individuals across the nation expressing interest in replicating it at the level of municipal legislative chambers or city halls. **Though the project's code was openly accessible, it proved impossible to replicate in other environments without access to similarly structured data sources, which are rare**.

Once the National Congress began providing usable data, the technical challenges in Serenata de Amor were relatively straightforward, as the AI application dealt primarily with structured data and the application at scale of simple statistical regression models. For instance, to check if a meal expensed by a member of congress was unusually costly, Serenata reviewed historical spending patterns within the same category. Advancing to more intricate models would require locating additional data sources for cross-referencing, as well as enhancing the technical expertise on our team.

In 2021, inspired in part by an interest in leveraging advances in AI tools for language processing, OKBR shifted its focus to a new project, Querido Diário,[4] which holds greater potential but presents different challenges.

Much of the public information available at the municipal level, even when published, is not as neatly structured as the datasets upon which our Serenata project relied. **Querido Diário sets out to tackle data scarcity challenges by aggregating and analyzing unstructured information sourced from municipal**

**gazettes across Brazil**. These daily gazettes, also known as "official diaries," serve as repositories where cities publish information—including the text of new laws, summaries of public purchases, and lists of civil servants who are on leave—in the form of text-heavy PDF files.

Brazil's municipal gazettes exemplify the problem of "unstructured information"—here, referring to freely written text, set out in whatever order its authors deem appropriate. The announcement of a new contract signed by a city, for example, can take many forms when it appears in a municipal gazette. The company being hired may be referred to under its whole commercial name, its trademark, its tax registry number, or an abbreviated version of each. Numerical units may be expressed verbally (e.g., "one thousand and three packs of coffee") or in other ways. The formats used in these documents will also vary across cities, or even when the civil servant who usually writes the entry is out of the office. As a result, traditionally it has been difficult for machines to extract meaning from unstructured information automatically, even if a person can read and comprehend it with ease.

Before figuring out how to make computers read that mass of information, we needed to source the data and set it free from its Gutenbergian cage. To do so, we have leveraged a community of dozens of volunteers, who constantly develop web scrapers to extract text from the municipal PDFs and render it accessible, within an open infrastructure, for anyone to access and repurpose. Anyone can look up keywords in a search bar or utilize filters built into the interface to find information within thousands of files, or a bot can be connected to the infrastructure and scan through all the information at once. Since its inception, the project has undergone continual evolution. Presently, it encompasses data from over 410 cities, home to 30 percent of the Brazilian population.

**With this mostly unstructured text in an open infrastructure, we now have an ocean of data to navigate and explore with the help of AI.** Natural language processing (NLP) models can be used to process and make sense of this data on a scale that would be impossible even for thousands of human volunteers—and large language learning models (LLMs) have the potential to amplify these efforts even further.

Traditional NLP techniques necessitate developers knowing in advance what they want to search for in the text. When given clear instructions of this kind, a traditional NLP model can, for instance, identify contracts related to climate change mitigation within a gazette and list the names of all companies mentioned in the given document. LLMs, powerful simulators of language, can potentially go further. They offer three clear advantages: simpler prompting, greater capacity to analyze relationships among entities (significant objects or pieces of information in the text), and the ability to summarize findings from search results as well as explain how they connect to other contexts. For example, a citizen might ask which contracting company was hired to clean a river and receive a response explaining what each contractor involved was supposed to do, even referring to the history of previous contracts to see if there were costly extensions.

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# NOT THERE YET: NAVIGATING CIVIC AI

Despite the clear potential of AI in civic work, high costs and several other major challenges hinder its widespread adoption and effectiveness.

**NLP in Portuguese:** Traditional NLP models often struggle to achieve satisfactory accuracy in Portuguese, particularly for domain-specific tasks related to the civic sphere. Training such models requires huge bases of words painstakingly classified by humans (e.g., identifying and defining names, adverbs, and government-related actions). Business incentives have made such lexicons widely available in English, but Portuguese-speaking countries have never had the resources to create them at the necessary scale. Thus, pretrained language models are still underdeveloped and may not perform well on tasks involving Brazilian Portuguese—a common frustration encountered with current NLP systems when working in many languages other than English.

**Lack of donor support for critical tasks:** To make data available for deploying and fine-tuning AI tools, civic organizations need to classify the information contained in large datasets (such as municipal gazettes) manually. This task is laborious and requires qualified personnel. Moreover, domain experts—for instance, lawyers or specialists in agriculture or education policy—need to review the classifications as well as the outputs of such models. The time of those experts may be more expensive than the technology itself, but these efforts are crucial to ensure that AI systems achieve the needed level of accuracy. Donors often do not understand these needs and are reluctant to fund unglamorous work, like data infrastructure construction and management, that entail investing in process rather than final products.

**Infrastructure costs:** The infrastructure costs associated with running AI solutions can be prohibitive, especially for smaller civic organizations with limited resources. General-purpose models, such as ChatGPT, are not suited for tasks where accuracy is paramount, since they often return made-up results with no basis in fact. Specifically trained AI models tend to provide more pertinent results. The cost of fine-tuning AI models for specific tasks is decreasing, but cloud services able to support this work usually charge in U.S. dollars, and exchange rate fluctuations may further exacerbate this challenge. Difficulties related to the structure of public-sector data can also play a significant role in infrastructure costs: Government agencies change the formats and sources of the data they publish frequently, which requires civic organizations to re-train and adapt their models.

**Hiring qualified personnel:** The demand for AI expertise far exceeds the supply, and civic organizations generally find it difficult to compete for talent with better-resourced private sector companies. When dealing with legal data, there is an additional hurdle of recruiting domain experts, including in fields such as data privacy, to review the pertinency of the machine-generated output.

## PATHWAYS FORWARD

To address many of these technical and financial barriers to leveraging the full capacity of AI for civic work, OKBR deploys a variety of strategies. These approaches include:

**Partnerships with universities:** Collaboration with academic institutions provides access to cutting-edge research and expertise in AI and NLP. OKBR has established a program in which professors and researchers from diverse fields can work to tackle specific civic challenges in collaboration with our team and within their regular curriculum, thereby gaining insights from real-world problems.

**Open-source code and community collaboration:** Making AI algorithms and tools open-source allows for broader collaboration and contributions from the community. To this end, OKBR is committed to sharing its code. We also leverage a Discord channel boasting nearly 1,500 members, predominantly from technical backgrounds, for community technical collaboration.

**Providing free and accessible training:** Offering free and accessible training programs for developers and AI enthusiasts can empower individuals to contribute to civic AI projects. More than five hundred individuals have taken the “Python for Civic Innovation” course offered by the School of Data (OKBR’s educational program), which teaches the programming language applied to our NLP projects. Some of these students became active volunteers. More broadly, digital rights organizations with educational programs, or those focused on training people in digital and data literacy skills, can enhance the civic AI ecosystem by incorporating contributions to actual civic technology projects into their syllabi.

By leveraging AI techniques, organizations like Open Knowledge Brasil can unlock valuable insights from unstructured data and scale up public oversight of government activities. Other organizations in the region are also beginning to tap into the civic potential of AI: Latin American organizations participating in the EmpatIA initiative,[5] for instance, developed prototypes for various AI-powered applications designed to address public issues such as air pollution and public health. Governments and universities are undertaking additional exploration with generative AI, although the current state of this technology means these projects are most likely still too experimental for release.

Navigating the technical, financial, and ethical challenges of civic AI requires innovative solutions and collaboration. Through partnerships, open-source initiatives, and accessible training programs, **we can harness the full potential of AI for civic technologies that promote transparency, accountability, and democracy**.

# RECLAIMING TECHNOLOGY FOR DEMOCRACY

// CARL MILLER

As the Internet first came into being, some of its earliest inventors saw it as a technology that would be synonymous with democracy. In 1979, J.C.R. Licklider wrote, "computers would allow [decisions] in the 'public interest' but also in the interest of giving the public itself the means to enter into the decision-making process that will shape their future." A more connected society, in this view, would also become a more democratic one.

Yet if the earliest decades of the Internet Age were suffused with glowing optimism, then the most recent has ushered in gloom. For roughly ten years, a succession of commentary has made the case that, rather than serving as a portal for participation, connection, and public-interest decision making, networked computers have torn us further apart.

The culprit most point to is commercial social media. The "organizing incentive of all social media," Max Fisher explains in his book *Chaos Machines*, "is attention."[1] **Profit-seeking social media platforms have designed information spaces with a single priority: to keep their users on the platform**. That, Fisher argues, has had a series of ruinous consequences—including polarization, radicalization, and alienation.

So what will the next decade hold? As we mark what Freedom House has deemed the eighteenth consecutive year of global democratic decline,[2] the stakes have become exceedingly high. Autocracies are only becoming more geopolitically boisterous and ambitious, and a series of democracies from Turkey and Hungary to India are backsliding. Of course, the Internet is not the only author of democracy's decline, but it is part of the story.

A series of increasingly urgent efforts are therefore underway to build new information spaces that buttress rather than undercut democracy. These efforts take numerous forms, from changing the existing commercial platforms to building alternatives, among other strategies. **One key subset is new deliberative technologies**:[3] systems designed to enable people to discuss, consider, and ultimately decide at scale and over distance, producing outcomes that feed into democratic processes of one kind or another.

## AI ADVANCES AND TECH-ENABLED DELIBERATION

Some of the warmest enthusiasm has been for **the creation of new deliberative processes using the latest generation of large language models (LLMs)**. In 2023, OpenAI, one of the leading developers of this class of technology, funded ten projects around the world that would use generative AI to do everything from **facilitating deliberative video calls** to **generating representative summaries of opinions from a large group**.[4] Anthropic, another developer, has also supported attempts to create deliberative spaces.[5] One such project involves the use of LLMs to summarize discussions hosted on an older online deliberative platform called Polis (which itself uses "bridging algorithms" to map out discussants on the basis of their expressed opinions, then begins to surface ideas that gain traction across the different factions that have formed).

Outside the tech governance space, systems of this kind have already been deployed to bring new deliberative processes to places without established democratic institutions. In Libya, the United Nations (UN) partnered with a platform called Remesh to create what they call "Large Scale Digital Dialogues."[6] This collaboration allowed the UN to engage a sample of hard-to-reach populations in this conflict zone digitally, providing an opportunity to express their opinions and respond to those of others. AI algorithms then processed these inputs to identify the themes most important within and across different groups, informing the process through which Libya formed a Government of National Unity in 2021. While the sample of participants was not fully representative, reflecting wider disparities in online participation, this approach made it possible to broaden the peace process beyond what would otherwise have been possible.

AI-enabled deliberative processes are not completely new. Polis, for instance, was famously used by civic hackers in the wake of Taiwan's 2014 Sunflower Revolution to address a crisis of legitimacy by creating a digital democratic process, called vTaiwan, that would help to shape new laws and regulations.[7]

Yet recent advances in AI models—especially around their ability to make sense of natural human language—are giving a boost to these explorations by opening up new technical possibilities. One critical change has been the growing capacity of AI tools to "read" conversations and summarize their meaning in much shorter form. This capability has already been trialed by Remesh and Polis (as well as my own project for OpenAI,[8] where we used large language models to create a higher-level semantic mapping of the key points of consensus that had emerged from an online deliberation about AI governance). Text summarization might be used to create a synopsis of outcomes from a specialized discussion that can, in turn, serve as the input for another, more general one, much in the same way that a specialized committee debates and delivers snappy bullet-points to be debated in turn by the full legislature.

Here, one key technical impact is simply to make the whole process cheaper and easier. As Colin Megill, the co-founder of Polis, writes, "a high quality process involving a Polis conversation costs on the order of $100k to run."[9] For him, **technologies like text summarization that leverage AI language processing to make sense of large numbers of disparate inputs, could reduce this cost radically by automating much of the reporting and write-up.** This shift opens up possibilities to conduct deliberations on a much larger scale, widening the element of public participation. It also makes organizing discussions of this kind a more practical option for civil society, resource-strapped local governments, and other groups with limited resources.

## FROM TECHNOLOGICAL TO POLITICAL INNOVATION

As AI advances help to make digital deliberation more dynamic and accessible, where else might these technologies fit into civic life and democratic practice? In the future, we must not simply think about technology in the abstract. Rather, the democratic community must bundle technological and political innovation together.

Globally, tech-enabled deliberative processes could help multilateral or multistakeholder institutions to connect directly with publics—and connect publics with one another—in ways that go well beyond the current applications in peacebuilding. There are very few opportunities for populaces to discuss global issues across cultural and linguistic boundaries directly, and this space is shrinking further as geopolitical tensions rise.

Tech-enabled deliberative processes could help multilateral or multistakeholder institutions to connect directly with publics—and connect publics with one another.

**Machine translation can allow deliberations to be run across dozens—even hundreds—of languages simultaneously**. Mistranslations will occur, of course, and the imperfections of AI language processing mean that cultural subtleties will be lost, but the potential of continuous, cross-cultural conversation is still extremely exciting. As rapid technological advances place a nonstop series of new questions on the global governance agenda, it might be that cross-border digital deliberation can create some discursive webbing between countries to fill some of the gaps we will inevitably see in formal international law.

Within national democratic systems, local governments have tended to be the most experimental in trialing AI-facilitated deliberation. Newham, a local Borough of London, for instance, conducted a Commission (of which I was part) that explored the potential to use digital democracy to involve citizens in decision making.[10] Here, AI might add the most value by doing the opposite of summarization. **LLMs could identify small groups with shared concerns or points of view expressed in larger deliberations, and target these individuals to bring into follow-on, narrower discussions.** Alternatively, LLMs could draw on the enormous troves of civic data that local governments hold to arrange hyper-local, personalized deliberations. For example, bringing service users with specific types of medical vulnerabilities into one deliberation about service redesign, and everyone who parks their car on a given road into another about planning permission. Participant knowledge and consent would be crucial in any such applications, since identifying these narrower groups—especially based on public-sector data—has implications for privacy and autonomy.

**The most widely promising applications of AI deliberation may be outside of formal politics and instead in the domain of membership organizations:** unions, clubs, associations, trusts, societies, and political parties, as well as more casual, less formally constituted social movements and collectives. Efficient, scaled deliberation, for these latter groups, might represent an entirely new way to represent their memberships' views or even to identify the members' values and priorities, while still retaining horizontal, bottom-up structures. Leaderless protest movements,[11] which from Egypt and Spain to Hong Kong have organized on social media, might leverage deliberative technologies to agree on demands, identify priorities, and set an agenda, overcoming obstacles to coordination and sustained collective action. The tapestry of groups will take different forms in different countries, but finding ways of connecting organizations more collaboratively with their members and stakeholders will strengthen civil society.

Efficient, scaled deliberation could help civil society groups connect more collaboratively with their members and stakeholders.

One final proposal is the most technological, and possibly the most controversial: to connect AI deliberation with a new sort of vehicle for decision making, digital autonomous organizations (DAOs). DAOs are self-executing "smart" contracts sat on a blockchain—effectively, structures of decision making baked into code. Originally conceived as investment vehicles, these were structures into which people placed money in exchange for tokens which gave

them a right to vote on how the money should be spent. Their use has begun to widen slowly, with DAOs set up to raise money for Ukraine[12] or facilitate transactions and promote sustainability among farmers.[13]

DAOs are innovations in decision making, but there has been far less innovation in how deliberation happens in the communities formed within them. The internal discussion is generally angry and fractious, often taking the form of long Discord posts dominated by a few individuals. Thus, it would be fruitful to connect digital deliberation with decentralized decision making. Recently, the Mina Foundation, which governs the Mina Protocol ZK blockchain project, put this idea to the test by partnering with the LLM-based collective decision-making platform Talk to the City (TttC) to help members evaluate proposals for improving the organization's governance.[14] If we can separate the technology itself from the shallowly materialistic, toxic culture often present around crypto, connecting DAOs with deliberative processes might present an entirely new kind of vehicle for making decisions, especially around finances—exactly how to support Ukraine for instance, or whether a specific land acquisition deal should be pursued—and then acting on them.

Connecting DAOs with deliberative processes might present an entirely new kind of vehicle for making decisions and then acting on them.

## MEETING THE DEMOCRATIC CHALLENGE

There are many genuine concerns with these new forms of deliberation and decision making. We are living in an age where digital discussion spaces are often targeted, gamed, and hacked by the antagonists of democracy. Thus, the idea of linking such spaces to more decisions might strike many as risky. The use of latest-generation AI to synthesize or moderate also raises concerns, given that outputs can be biased, hallucinatory, or, at the very least, difficult for humans to explain. Others also worry that an exclusive focus on consensus is itself a problem, with the potential to sideline minority voices and quash the dissent and disagreement that are fundamental to democratic practice.

Perhaps the trickiest problem is that **deliberative processes do not easily slot into our ideas of representative democracy**. What gives any single group democratic legitimacy over others? In Taiwan since 2014, the vTaiwan digital democratic process has sometimes sat uncomfortably alongside the elected legislature. "Those digital democracy platforms don't have any kind of real authority," Taiwanese parliamentarian Karen Yu told me several years ago.[15] Ultimately, it is still Parliament that passes the law, and it is unclear what impact a platform such as vTaiwan can have when its output and the opinions of the legislative body collide.

In reality, bolstering democratic practice meaningfully using any of the processes outlined above is difficult, as is democracy itself. The answer will inevitably lie not just in new deliberative technologies, but also in the changed

ways of practicing democracy that can make best use of them—not just in building new information spaces, but also finding ways of making them matter.

If the last decade has shown us anything, however, it is that **finding ways of making the technology we use everyday support the democratic systems that we want is not an optional extra. It is essential**. It will come down to the next generation of innovators, designers, politicians to find out how this critical objective can be achieved.

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## From Data Deserts to AI Oceans: Harnessing Artificial Intelligence for Government Transparency

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