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Artificial Intelligence and Democracy

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Preface

"After all, we make ourselves according to the ideas we have of our possibilities."
V.S. Naipaul

There is no doubt that the technological advancement has become the game changer of our times. From the Industry 4.0 discourse launched in Germany in 2011 to the scientific advisory report presented to the former US president Barrack Obama on big data and privacy concerns in 2014, to India's NITI Aayog Artificial Intelligence for All strategy of 2018. A lot of debates have culminated in the questions about the Future of Work in the context of the International Labour Organisation's Centenary in 2019. Triggered by the disruptive forces of technology based start-ups and new business models, a new race for innovations and war for talents has arisen and with it, a new form of global and fierce competition.

Technology has become the holy grail of progress though it did not take long to realise that there is a social dimension attached to it. The platform economy has had severe effects on the bargaining power of suppliers and workers. Data analytics opened a whole array of ethical questions regarding personal tracking and privacy. Further, technological upgrades create productivity gains by efficiency which in turn requires reduced human labour. This poses a particular threat to emerging economies, like India, which need to create new jobs on massive scale for its young and growing population.

The utopia around Artificial Intelligence in the times of jobless growth presents a whole new set of challenges. Is the Indian economy ready to ride the AI wave? Who will benefit from AI: investors, big tech, users, or society as a whole? What is and can be India's role in this global race for innovation? Is tech gender neutral? What about privacy and user protection? How to ensure decent work and social protection in this new age tech revolution? But mostly, how can we turn AI FOR ALL into a reality?

To foster this debate, the FES India Office has teamed up with several experts and organisations across the country to explore ground realities with the objective to understand how technology is already unfolding in selected sectors, draft scenarios of what might happen and to ensure proper safeguards are put in place at the right time.

Artificial Intelligence like any other technology is neither good nor bad. It is what we make out of it - the rules and regulations – which define the outcome of the game. Just like other countries, in India too, a mass scale application of AI is far from being established. It is still in a nascent phase and can be moulded into a success story. A success story in India AND an Indian success story for all.

Patrick Ruether and Mandvi Kulshreshtha
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Note of thanks

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Contents

List of abbreviations

AFRS	Automated Facial Recognition Systems	NAFIS	National Automated Fingerprint Identification System
AI	Artificial Intelligence	NATGRID	National Intelligence Grid
BJP	Bharatiya Janata Party	NCRB	National Crime Records Bureau
BMC	Brihanmumbai Municipal Corporation	NIC	National Informatics Center
CCTNS	Crime and Criminal Tracking Network and Systems	NJDG	National Judicial Data Grid
CCTV	Closed Circuit Television	NLP	Natural Language Processing
CEO	Chief Executive Officer	OMR	Optical Mark Recognition
GPS	Global Positioning System	RTDAI	Realtime Digital Authentication of Identity
ICT	Information Communication Technology	RTG	Real Time Governance State
IVRS	Interactive Voice Response Systems	RTI	Right to Information Act
		U.S.	United States of America

I. How AI is recasting democracy in India?

Vast areas of political, social, and economic life are increasingly being governed by digital codes, in ways both invisible and unintelligible to wider society. Algorithms are not only shaping what we know of the world, but also how we behave[1] and how we are perceived by others.[2] In the past few years, there has been a surge of interest in the transformative effects of artificial intelligence (AI), with governments, international organisations, and private enterprises, all promoting their visions of 'AI for Social Good'. The term AI is in many ways a buzzword, used to describe a range of computational tools, from big data analytics to deep learning algorithms, whose common denominator is the use of expansive computing power to analyse massive quantities of data.[3]

Beyond enabling innovation of new products and services, the growing ubiquity of these computational techniques in public life is also transforming political systems and relationships. In the 1990s, the commercialisation of the internet made many believe it would accelerate the spread of democracy.[4] As Eric Rosenbach & Katherine Mansted write, 'the design of the internet itself - as a decentralised network that empowers individuals to freely associate and share ideas and information - reflected liberal principles.'[5] However, increasingly, applications of big data and machine learning are being used to manipulate public opinion, spread and amplify hate speech, and increase the surveillance capacities of states. Strategies for political mobilisation and governance are also changing - machine learning systems, for example, can already predict which US congressional bills will pass, based on algorithmic assessments of the text of the bill and other variables, such as the number of sponsors for the bill, or the time of year the bill is presented to Congress.[6]

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How is the cluster of technologies labeled as AI recasting democracy in India? How is it transforming the manner in which citizens and political representatives engage with the democratic process, and to what effect? How if, at all, does the unfolding trajectories of AI and society in the context of democracy in India, depart from global narratives?

In its simplest form, the idea of democracy rests on the assumption of free and rational individuals - constituting a public - who, through informed deliberation, are able to take collective decisions about their common good and the political representation that can represent and deliver this good. Citizens have a right to understand why and how certain decisions are made about them, or for them, and hold representatives accountable. The reality of democracy is however far messier. This is particularly pertinent in a country like India, whose founding as a democracy coincided with its emergence as a nation state. Unlike the emergence of democracies in European states, in India, democracy did not gradually extend outwards and upwards, expanding through universal franchise and institution building. As Madhav Khosla writes, the birth of modern India combined a set of processes that had unfolded at separate rates in the West; in India, a range of processes- 'the introduction of popular authorisation, the creation of rules constituting public authority and participation, the concentration of authority in the state, the identification of self-determination with individual freedom, and the separation of the public and private' - all emerged at the same time.[7] Many processes and institutions of democracy in India are thus weak or under-developed, and arguably also less resilient to the transformative effects of AI.

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As the roll out of AI-based technologies is still at an early stage, this paper is meant as a diagnostic report based on insights generated at a policy lab[8] and further desk research. The subject matter itself is huge, involving a range of issues and actors; the field itself is constantly changing. This paper aims to map and identify some of the key issues of concern around AI and democracy, and

the debates surrounding them. In particular, the paper explores three specific dimensions of state-society relations that are being transformed by AI applications - strategies for political mobilisation, delivery of public services, and possibilities for citizen participation. The concluding section then reflects upon broader implications for the understanding and practices of democracy in India.

II. Computational politics: politicians and elections

The use of big data analytics and AI for campaigning and elections has had a substantial impact on democratic politics worldwide. As the 2018 case involving Cambridge Analytica and Facebook demonstrated, political parties are increasingly turning to big data analytics to create granular, behavioural and psychometric voter profiles, and to subsequently classify voters into interest groups for the delivery of targeted political content.[9] Zeynep Tufecki describes this as a form of 'computational politics', which is the application of computational methods to large datasets, derived from online and off–line data sources, for conducting outreach, persuasion and mobilisation, in the service of electing, furthering or opposing a candidate, a policy or legislation.[10] Beyond political manipulation, computational politics also results in massive information asymmetries between political parties and citizens. The algorithmic curation of news and stories create information silos and echo chambers on social media; such filter bubbles that can act as a form of 'invisible propaganda' to manipulate public opinion.[11] With the development of new applications of AI, such as the creation of deepfakes and digital avatars,[12] it is now increasingly difficult to distinguish between reality and fiction and to trust one's own judgement and experience. The growing spectre of misinformation, and the blurring of boundaries between what is 'real' or 'fake' undermines the possibility of free and informed democratic engagement, or the very idea of deliberative democracy.[13]

Beyond political manipulation, computational politics also results in massive information asymmetries between political parties and citizens.

Further, while appearing gimmicky in nature, 'AI politicians'- have also been created for running for elections in Russia, Japan and New Zealand. The logic of these AI politicians seems to rest on the notion of efficacy and a perceived accuracy resulting from a high degree of computational power that AI algorithms offer. For instance, making an appeal to voters, SAM the AI politician that has been in use in New Zealand states: "My memory is infinite, so I will never forget or ignore what you tell me. Unlike a human politician, I consider everyone's position, without bias, when making decisions… I will change over time to reflect the issues that the people of New Zealand care about most."[14] While AI politicians seem like a distant proposition, the principle on which AI politicians are based is already in practice. Algorithmic decision making, being used in various processes are lending way to the increasing growth of 'algorithmic authority'[15] - that is, the increasing power given to algorithmic processes to adjudicate and guide human actions.

There is a growing body of evidence and analysis, across academia, policy and the media, on the impact of big data analytics and machine learning technologies on elections and political mobilisation.[16] What stands out within the Indian context is the rapid increase in mobile and internet connectivity over the past five years, leading to a vast increase in internet users in India from 65 million in 2014 to 580 million in 2019. While estimates vary on the number of actual active users, most accounts agree that by 2019, about half of India's voting population had access to information avenues in ways that were previously simply not possible.[17] Further, a growing number of these users are from non-metro cities and rural areas. Google recently reported, for example, that more than half of its searches came from non-metro cities. Many of these users lack basic literacy, including digital and media literacy,[18] as well as an understanding of these systems of algorithmic curation. 60 per cent of Facebook users are unaware of the algorithmic curation of stories, to cite an example.[19] Reflecting on this, combined with the poor quality of a majority of Indian educational establishments, renowned journalist Ravish Kumar writes, ' An overwhelming majority of our young people only understand the language of PowerPoint and 140 character tweets; their powers of comprehension haven't been allowed to develop beyond this.'[20]

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The combination of Big Data and AI analytics, led to the 2019 General elections being dubbed India's 'big data election', where AI algorithms were used to understand voter preferences and the political sentiments of users through the use of social media platforms and apps.[21] Pal and Panda show how after PM Modi's successful use of Twitter and Facebook during the 2014 election, politicians across party lines and states began to use social media for political campaigning, significantly increasing their budgets for digital campaigning.[22] Narayanan et al note that, in comparison with other recent international elections, the proportion of polarising political news and information in circulation over social media in India was worse than all of the other country case studies, except in the case of the U.S. Presidential election in 2016.[23] Mahua Moitra, a Member of Parliament from West Bengal, recently remarked that the 2019 election was fought on fake news, not real issues: "This election was not fought on the plank of farmer distress. This election was not fought on unemployment. This election was fought on WhatsApp, on fake news, on manipulating minds."[24] Targeted political messaging is however not new. The Cambridge Analytica CEO, for example, claimed that the firm had worked on state elections in India as early as 2003.[25] However, the increase in the number of mobile and internet users, the growing datafication of government services, and the increase in the variety and types of data being collected, has enabled both scale and granularity at the same time.

The circulation of political communication and content is further amplified by the contextual hybridity of the media environment in India, which enables the permeation of online messaging into the offline world as well.[26] Both online and offline strategies are used in combination to increase the scope and effectiveness of targeted political campaigning. Targeted political messaging as well as false political content is delivered to people and groups who have been segregated on the basis of demographic data, such as age, religion, caste, occupation, and party affiliation.[27] Shankar Singh documents how political parties map out voters' caste and religion through the combination of data analytics and the manual collection and categorisation of information; electricity bills, for example, are used to determine socio-economic status.[28] Similarly, digital misinformation campaigns may also be accompanied by physical interventions to stop voters

from reaching the poll booth.[29] Campaign apps are increasingly used to collect, analyse and store a range of information about people, such as: residence status, caste, political preference, who people are likely to vote for, and how they rate the party of their choice. Apps also provide more personal information such as photographs, telephone numbers, household data, the number of government welfare schemes availed, and the amount received in state subsidies. Some accounts suggest that political parties may have used government beneficiary data collected through its Seva Mitra app to target voters.[30] The level of granularity achieved through a combination of online and offline strategies leads Singh to comment that "Cambridge Analytica probably won't even dream of this level of targeted advertising."[31]

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Pal and Meena highlight how different mediums are used by different levels of the party. Twitter serves as an official spokesperson for politicians; Instagram and Youtube are used by social media teams with sophistication in aesthetics and videography to amplify the message; and WhatsApp serves mainly as a channel for spreading last mile communication from election workers themselves rather than party leaders.[32] Further, Udupa notes, social media platforms are often divided demographically, and platforms are assigned different "political moralities- with user groups differing in their preferences, reflecting linguistic differences and class location".[33] The nature and type of content is also changing. Parties are primarily using audio-video content to increase accessibility for a larger number of users. For example, political parties are increasingly looking to TikTok, which boasts of over 200 million users, to reach new voters, particularly the youth. There has also been an observable increase in content that is humorous or derogatory, as this gets higher traction on social media. Because of the humorous or sensational nature of the content being shared, it has become the primary source of information for voters, over other traditional media sources.[34]

Political campaigning through social media platforms also allows parties to skirt around election regulations. For example, even though parties are not allowed to campaign in the last 48 hours, these restrictions do not extend to social media platforms. Similarly, while the election commission has placed caps on advertising, parties now spend money on boosting Facebook posts and ensuring their content trends on other social media platforms.[35] Pal and Meena also draw attention to the impact of these political mobilisation strategies on party organisational structures and grass root level party workers. Political messaging and its dissemination is led by the IT cell. Outreach by party workers is subject to surveillance for the frequency and regularity by which they forward messages that come from party machinery.[36] For example, GPS tracking in mobile apps are used by booth committee managers to keep a track of the outreach and campaigning squad working under them. Computational politics have also given rise to new stakeholder actors, such as political consultancies and digital marketers. Existing monitoring is ill-equipped to deal with these new actors, leaving them to self-regulate in the high stakes environment of a general election.[37] Coordinated and intelligent digital campaigns are certainly not cheap and there is a clear advantage to richer parties. The Bharatiya Janata Party (BJP), for example, spent more in this area than any other political party during the 2019 election.[38]

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A range of computational techniques, loosely clubbed together as Big Data and AI, are thus enabling new and enhanced ways of micro-targeting voters and manipulating public opinion, manufacturing consent for particular ideologies and sharpening political lines through the amplification of filter bubbles. While Big Data analytics has been in use in elections, both globally, and in India, AI-based algorithms and systems are also increasingly being adopted, paving the way for more sophisticated technologies of persuasion and manipulation, which are more difficult to detect. The increasing use of AI in the case of social media bots, for political campaigning, adds a layer of sophistication to the technology, which makes it more difficult to detect. According to Bessi and Ferrara, "These bots are more complex, using artificial intelligence to chat with people. They can aggregate the sentiment in a polarised discussion and maybe even further polarise it."[39] The use of bots on social media, can not only polarise the political discourse, but also provide the false appearance of public support (or lack of) when there is none. It has been found that "roughly 400,000 bots were engaged in the political discussion about the Presidential election in the U.S. in 2016, responsible for roughly 3.8 million tweets, and about one-fifth of the entire conversation".[40] Similarly in India, research has shown that in the aftermath of events such as the Uri attack, 35.8 per cent of tweets around the event were generated by bots, and revolved around the circulation of polarising content which either displayed anger against Pakistan or called for India to go to war.

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We are, in some sense, just discovering the myriad of uses, and impact of politically motivated AI use. The most recent incidents of AI use in the Indian political sphere sets a dangerous precedent for future campaigns: with politicians themselves employing what is popularly known as 'deepfake' to communicate with voters.[41] With deepfake election campaigns, we are entering an era where it's going to be increasingly difficult to trust what we see and hear online. Because deepfakes use sophisticated computational techniques involving neural networks, computational techniques are also needed to identify deepfakes - the human eye alone is unable to identify them. At stake therefore are the very foundations of deliberative democracy. In a country like India where digital literacy is nascent, even low-quality versions of video manipulation have led to violence. The further difficulties in regulating deepfakes, and the use of AI within politics more broadly, is the benefit that politicians stand to gain from the use of these techniques. Because of these benefits, as Ananth Padmanabhan argues,

In a country like India where digital literacy is nascent, even low-quality versions of video manipulation have led to violence.

politicians may be more inclined to push platforms to self-regulate, or themselves get involved in regulation only where it seems to be linked to their particular political interest (for example, through an order for information takedowns). As Padmanabhan argues, we already saw this with the Internet and Mobile Association of India's ineffective voluntary code to tackle misinformation during the 2019 parliamentary elections.[42]

Along with the creation of echo chambers and the blurring of perceptions of reality, computational propaganda also allows political parties to unwittingly recruit users as unsuspecting foot soldiers for political propaganda obscuring the boundaries between end-users and campaigners.[43] A large portion of these users are youth, many not in education or training or work. A recent study investigating why people share misinformation in India suggested that people do so simply out of boredom or for fun, further emphasising how this youth population is prime for political targeting and manipulation. Targeted content, once internalised, can be voluntarily shared by end-users. In such cases, technological fixes through the use of fact-checking AI, or detecting bots or takedown notices, do not solve the problem.

At the same time, what is particularly noteworthy in the Indian context, as well as other countries in the global South, is the value users ascribe to personalised content. Payal Arora, for example, in her research, shows that accessible and personalised internet services are

Personalisation of content and messaging can also represent a sense of inclusion and empowerment.

extremely valuable for people who have struggled to be connected, or have their voices heard. Using tech products to communicate also visiblises them and helps them assert their identities. Personalisation of content and messaging can also represent a sense of inclusion and empowerment. AI methods such as Natural Language Processing (NLP), as seen in the case of voice-based internet search applications in India also enable personalisation and participation despite literacy barriers.

For example, Interactive Voice Response Systems (IVRS) are increasingly used to reach voters from rural areas with low levels of literacy; voters receive pre-recorded automated IVRS calls of politicians reciting their election manifesto or discussing local issues. This may lead voters to believe that politicians are personally invested in their problems. Similarly, social media provides a means for a large part of the population previously excluded from political processes, to participate. Political memes are for example an important means of political expression and subversion, enabling a new form of political participation that was not available previously. TikTok is similarly one of the most used social media platforms, enabling youth to create and share user generated content, building new communities and solidarities. Even while most academia and media accounts are focussed on the spread of misinformation on social media platforms, such as TikTok, this is not always the case. Nilesh Christopher for example documents how youth are creating catchy and humorous videos against caste and religious violence, reflective of how political agency is being manifested through these platforms.[44] Yet, this does not negate the huge inequities in power and influence between citizens and political actors - memes are not within the same category of influence and engagement as direct profiling and targeting with the intention to manipulate- the latter is rooted in behavioural nudges.[45]

III. Governance by code: algorithms in public systems

Over the past decade, there has been a growing emphasis on leveraging ICT for good governance, as manifested in the Digital India program. AI is being imagined to further this objective and enable efficient and responsive delivery of public services. Various states and ministries have begun working on developing and deploying AI solutions for governance. Telangana and Uttar Pradesh (UP) have been the first to announce plans to use AI for governance and development. UP is allegedly using AI to manage prisons and examination systems through monitoring through Automated Facial Recognition Systems (AFRS).[46] Telangana is planning to introduce programmes specific to AI and declared 2020 as the year of Artificial Intelligence. The Telangana government has begun using image recognition technologies to authenticate recipients for government schemes through the use of Realtime Digital Authentication of Identity (RTDAI) system. The RTDAI is being used to verify pensioner's demographics (name, father's name and address), photo and liveness through a photograph/selfie uploaded by the pensioner through their smartphone.[47]

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The National Judicial Data Grid (NJDG) is being used to map court litigations to identify which laws are creating most number of litigations. The insights gained through this system are being positioned to help legislators and policymakers to rectify the respective law or its application to reduce the number of litigations to reduce the burden on the legal system. The National Informatics Center (NIC) has been piloting the use of AI technologies to monitor implementation of the *Swachh Bharat Abhiyan*.[48] The location, the identity of the beneficiary, and the physical state and condition of toilets are being verified using an AI system.[49] The government portal Easy Gov. allegedly uses a rule based system to allow citizens to check their eligibility for welfare schemes; it also employs AI based chat and voice interfaces integrated with various social media platforms for easy access to government services.

State governments are also likely to be lured by the opportunities for real-time governance (RTG) offered by AI based interventions. Andhra Pradesh has been a leader in rolling out a RTG system.[50] The Andhra Pradesh government has taken a lead by creating a real-time dashboard that measures the effectiveness of the services delivered. The major thematic areas of operation of RTG include: grievance management; beneficiary feedback; data mining and analytics (for independent performance measurement system at state level); coordination and crowdsourcing (application of Big Data for designing welfare projects in the state).

AI-based products are increasingly being used across various states and government departments. It is noteworthy that many of the current uses of AI appear to be clustered around automated facial recognition systems. The home ministry recently announced its intention to install the world's largest AFRS to track and identify criminals.[51] The Home Minister has also announced plans to revive National Intelligence Grid (NATGRID), which would create a 360-degree profile of citizens, linked to the current *Aadhaar system*,[52] and compiled through data from various sources including social media. This would invariably use big data analytics and machine learning to create citizen profiles and assess risk or enable targeting. The Telangana government already created a NATGRID-like system called Samagra Vedika in 2017, which allows the state to verify or check citizen data from about 25 departments.[53] The Samagra Vedika project has been accused of collecting and integrating citizen data without prior consent or any specific reason, causing apprehensions of state surveillance and threats to citizen privacy.[54] The state

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of Uttar Pradesh is allegedly using facial recognition and predictive analytics to manage prisons. It has installed a video wall to analyse movement in prisons, developed by AI start-up Staq. Staq systems are also being used by police in the states of Rajasthan, Punjab, and Telangana.[55] Police

in New Delhi initially used AFRS systems to find missing children, but are now also using it to track protesters.[56] Tamil Nadu has announced plans to use AFRS in schools to monitor attendance and performance.[57] The Railway authority recently also announced that it would use AFRS at stations to identify criminals, linking the AFRS systems to the Criminal Tracking Network.[58] The Telangana State Election Commission is considering using AFRS to identify voters during the municipal elections.[59]

Automated facial recognition systems are a direct threat to the right to privacy. Unlike Closed Circuit Television (CCTV) cameras, they allow for the automatic tracking and identification of individuals across place and time. Footage from surveillance cameras can be easily cross-matched, and combined with different databases, to yield a 360-degree view of individuals. As facial recognition systems combine constant bulk monitoring with individual identification, anonymity is further rendered impossible – there is no protection, or safety, even in numbers. Moreover, AFRS can have a chilling effect on society, making individuals refrain from engaging in certain types of activity for fear of the perceived consequences of the activity being observed. As Daragh Murray points out, this chilling effect results in the curtailment of a far greater set of rights, such as the freedom of expression, association, and assembly. Taken together, this can undermine the very foundations of a participatory democracy.[60]

AFRS can have a chilling effect on society, making individuals refrain from engaging in certain types of activity for fear of the perceived consequences of the activity being observed.

Further, because surveillance operates as 'a mechanism of social sorting',[61] or classifying individuals based on a set of predetermined characteristics, and their likelihood of posing a risk to society, the chilling effect is likely to be experienced more severely by already discriminated against communities. Such social sorting is further likely to exacerbate identity politics in India, enforcing and exacerbating social divisions. This is also why critiques of AFRS that point to their low accuracy rates or failure to identify certain skin tones

A more effective system would pose an even greater threat to privacy, social sorting, and participatory democracy.

miss the point entirely.[62] A more effective system would pose an even greater threat to privacy, social sorting, and participatory democracy.

The issue of bias and discrimination is equally concerning. There have been many studies, most notably Virginia Eubank's 'Automating Inequality'[63] and Cathy O'Neil's 'Weapons of Math Destruction'[64] that have illustrated the discriminatory and exclusionary mechanisms these data-driven systems enable, disproportionately affecting poor and marginalised communities. For example, studies have shown that AI systems used by the U.S. judicial system to rate criminal recidivism display a racial bias, disproportionately affecting the African American communities.[65] In India, a 2018 report found Dalits and Adivasis account for 34 per cent of the prison populations despite only constituting 24 per cent of the Indian population.[66] An AI system built on existing prison data would invariably reflect this societal imbalance, and further lock-it in as an objective truth. A recent study by Vidushi Marda and Shivangi Narayan further illustrates how issues of bias and discrimination arise as AI systems are introduced into particular institutional and social contexts. They highlight the data collection and subsequent mapping practices by Delhi police, noting historical, representational and measurement bias. Technological solutions, Narayan writes, "that are praised for their clarity and objectivity are applied in institutional settings where caste hierarchies and religious discrimination are profoundly rooted. In this framework, the collection and elaboration of data flatten the context and confirm the bias of the majority, leading to a branding of specific spaces as inherently criminal."[67]

Further complicating the issue, the algorithms deployed are often opaque to the public either due to black-box techniques such as Deep Learning or due to governments and companies choosing to hide inconsistencies and errors behind proprietary barriers. This undermines the transparency and accountability of government systems. Non-interpretability of machine decisions impacts important constitutional concepts of due process and the right to information as well as legal mechanisms like the RTI Act which actualise these rights. The RTI Act, in particular, places positive obligations upon the state to explain certain decisions, including administrative decisions taken that impact individuals. The extent to which techniques

of explainability in AI can be incorporated to ensure that the RTI remains a robust instrument for holding government systems accountable is debatable.

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Beyond biases, algorithms are also prone to errors. These errors can have grave implications on public systems. For instance, the recent voter deduplication exercise resulted in deletion of around three million voters from the electoral roll due to the failure of two technological interventions - the deduplication algorithm and the Aadhaar database linkage. In another example, a technical glitch in an Optical Mark Recognition (OMR) correction algorithm (which is not even AI-based technology) resulted in the wrong evaluation of the 2019 Telangana Intermediate board examination. A probe to evaluate the system was ordered in the light of 25 student suicides; the committee turned in a 110 page report critical of the private firm and the government, though only a four page note was released and the report is yet to be made public.[68]

Ministries and state agencies often do not have the internal capacity to develop and deploy these solutions, and consequently turn to the private sector. The calls for technology adoption arise from private sector advocacy, typically driven by business agendas; for instance, Eubanks points out that biometric technology developed for military use implemented for welfare recipients was motivated by agendas of profit.[69] Google's Ali Rahimi recently likened AI technology to medieval alchemy. Researchers "often can't explain the inner workings of their mathematical models: they lack rigorous theoretical understandings of their tools... [Yet], we are building systems that govern healthcare and mediate our civic dialogue [and] influence elections."[70]

The calls for technology adoption arise from private sector advocacy, typically driven by business agendas.

What is being advanced is a vision of algorithm governance. Ignas Kalpokus writes that algorithmic governance is characterised by its tackling of problems through 'their effects rather than their causation'. Instead of disentangling the multiplicity of causal relationships and getting to the root of every matter, this form of governance is 'intent on collecting as much data as is possible in order to establish robust correlations'; in other words, 'instead of decoding underlying essences, this mode of governance works by way of establishing connections, patterns, and no less crucial predictions.'[71] These can be subsequently worked on and turned into algorithmically devised courses of action, changes in the digital architecture of our everyday environment, or nudging strategies.

As Ali Alkhatib and Michael Bernstein write, such algorithm governance can further disempower what he calls 'street-level bureaucrats'. Studies show that street-level bureaucrats are more reflexive in refining their decision criteria, while algorithms at best can be reflexive only after the decision has been made—this is known as the loop-and-a-half delay.[72] The transition of these street-level bureaucrats to mere facilitators of these technologies results in a loss of tacit and situational knowledge that often helps in broken and dysfunctional systems. For instance, in the Aadhaar biometric failures, the bureaucrat knows and can verify the welfare recipient's identity but that knowledge has become irrelevant and only technology has the right to verify it. Similarly, within police control centres, during the manual process of registering crimes, the bureaucrat uses their judgment about whether to register violations, such as crossing the Stop Line, based on the situation and the socio-economic condition of the violator. The policeman in question is displaying a form of discrimination but one that has its provenance not in malice but instead empathy or sympathy, in a similar manner to affirmative action.

The Government of India has also announced plans for a national data marketplace to fuel AI innovation by the private sector for governance and development solutions. The latest Economic Survey also frames data as a national resource that should be used to drive private sector innovation for social development.[73] This framing of data as a national resource, to be extracted, accumulated, and analysed, subordinates concerns of privacy and social justice to imperatives of economic growth. Moreover, as Sarah Barns argues, such open data programmes also

create a form of 'entrepreneurial governance', with a growing coalition of software engineers, data evangelists, open innovation advocates and entrepreneurs labouring and partnering to win government contracts. Good governance is then linked to digital entrepreneurialism and the successful use of public data assets by the private sector. This then also contributes to what Russel Prince describes as the hollowing out of government. As Barns writes, 'through the open data movement, the conditions of good governance are also linked to the success of digital entrepreneurialism, the vibrancy of a local tech sector, and the successful integration of public data assets into proprietary software services.'[74] In a country as vast and heterogenous like India, the demands upon governments and administrators are undoubtedly enormous. AI based systems hold the promise of enabling new efficiencies in governance and delivery of public services. However, institutional capacities needed to steer AI trajectories toward responsible use are weak and under-developed, leaving greater space for policy lobbying by technology companies in shaping both the introduction and governance of AI based interventions for governance.

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IV. Using the masters' tools: citizen engagement

AI systems could be imagined to support citizen engagement in political processes. One of the barriers to greater citizen participation is the overwhelming amount of data pertaining to the performance of government ministries, in different languages, and with different performance metrics. Machine Learning applications could be developed to analyse these large, diverse, and unstructured datasets; to effectively extract and classify information; and provide a more comprehensible and accessible analysis. AI's ability to understand and translate different natural language texts can further help traverse vernacular barriers. While the current development of languages that AI can understand is still limited to only a few Indian vernacular languages, this is likely to improve with time. AI technologies like NLP could also allow selective text mining of documents, to create alternative representations of an issue. These technologies can also identify emotions represented in the text to improve classification and analysis of issues. Additionally, AI's ability to understand audio-video data can help overcome literacy boundaries for participation. Audio-video content allows for easier, quicker, and richer capture of information reducing the effort and time of citizen participation, enabling even an illiterate person to contribute in the form of audio-video data.

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AI systems can help evaluate large volumes of opinions and inputs on public participation platforms to inform and improve policy decisions, especially at a local level. For instance, vTaiwana Korean public participation platform—was designed as a neutral platform to engage experts and the relevant public in large scale discussions on specific issues.[75] The platforms allows for various experts to present proposals for the issues, which are then selected through public consensus and considered by the policymakers. These platforms can also be used to highlight pressing societal problems and deliberate resource allocation to enable participatory budgeting. For instance, the MyCityMyBudget initiative launched by Janagraha in partnership with the Karnataka government seeks citizen participation in the city budget and aims to make participatory budgeting mandatory by 2020.[76]

Public redressal and grievance platforms can also leverage AI technologies to better analyse data, route messages, and provide information to the respective government bodies. Citizens can also be made aware of the status of their grievance or complaints in real-time on the platforms. For instance, the Swachhata app, developed by Janagraha in partnership with the Ministry of Urban Development, acts as a civic technology interface between the government and citizens for sanitation issues.[77] AI technologies can also allow for the creation of hyper-local platforms that help governments leverage citizen participation in creating data for better governance. For instance, the public eye feature of the IChangeMyCity app also developed by Janagraha allow citizens to send pictures of traffic violations to the traffic police.[78] The Brihanmumbai Municipal Corporation (BMC) has similarly launched the MyBMC Pothole Fixit app for citizens to report potholes.[79] The BMC is trying to incentivise participation by awarding INR 500 to the person that reports the potholes beyond a certain size, and if the complaint is not attended to within 24 hours. There have also been efforts to use AI to analyse conversations in the digital public sphere, to inform local governments about citizen issues and sentiments. For instance, ZenCity, a Tel Aviv company, launched an AI platform that analyses both internal and external online conversations from citizens on social media channels and local news, and extracts meaningful structured data that can inform policy making at the local level.[80]

AI technologies can also allow for the creation of hyper-local platforms that help governments leverage citizen participation in creating data for better governance.

Open government data platforms can help citizens through the use of data-driven technologies to analyse the performance of various government bodies to understand what value is created for citizens, track government spending, and hold the government accountable. For example, open data platforms, like the

Barcelona smart city initiative, are also being used to make procurement more transparent and enable small companies to compete with large firms.[81]

However, the deployment of these systems on a mass-scale comes with the risk of exclusion, entrenching social inequities in democratic representation, and thereby translating the tyranny of the majority[82] into the digital sphere. The use of digital technologies for democratic processes has thus raised concerns of the digital divide translating into a democratic divide.[83] Citizens with a lack of access to digital spaces are often from poor and marginalised communities—communities that have often also been underrepresented in the democratic processes. Further, women in these communities have even lower access, and are often the last benefactors of technology value chains and gains.[84] This lack of access can limit the participation of these communities and the platforms risk voicing only the concerns and needs of the majority, further entrenching existing social inequities.

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The use of open data has also led to concerns around individual and group privacy of citizens. While open data can increase transparency of the government, the released data often consists of individual citizen's granular data, threatening their privacy.[85] Using only aggregate data is often positioned as a means to protect individual privacy. However, the aggregate datasets represent a set of individuals that constitute a social group, which raises questions around group privacy.[86] Profiling groups based on aggregate data used to generalise information for the entire group can also affect group members who have no digital access, and hence no agency in the process.

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V. Whither democracy?

AI is a fuzzy, umbrella term used to refer to a range of computational techniques and applications. While the impact of computational techniques on a phenomenon as broad as democracy is difficult to ascertain, there are also several dimensions to the impact of AI on democracy. In order to understand the implications of AI use, AI must be understood as a 'socio-technical' system—systems that do not function autonomously, with an inner 'technological logic' only, but instead are the outcome of socially-embedded decisions related to the production, diffusion, and use of technology.[87] The impact of AI as a socio-technical system, therefore must take into account the structures and contexts in which they are embedded and what those might mean for democratic values and citizen participation.

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As Karl Manheim and Lyric Kaplan write, Big data and AI-based interventions ultimately **challenge an individual's informational, decisional, and behavioural privacy.** These capacities are central to the promotion of democratic values: the capacity to form ideas, to think without interference from others, and freely participate in public life.[88] Increasingly, AI is being used to both generate content (such as bots) as well as disseminate content (algorithmically targeting specific groups of people). In doing so, AI-based systems create structures of algorithmic control over an individual's perception of the world, and capacities for discernment and self-determination. This is a particular concern owing to low levels of literacy and education in the country, with social media often being the primary medium through which information is accessed.

The use of AI also contributes to the **centralisation and concentration of power and knowledge**. While there are numerous ongoing pilots being led by government ministries in partnership with technology companies for deploying AI for health, education, agriculture and other social sectors, there is also growing deployment of AI for policing, law enforcement and surveillance. Current deployment trajectories of AI thus risk enhancing the surveillance capacities of the state, based on a 360-degree view of citizens through the analysis and combination of various databases. For instance the National Crime Records Bureau (NCRB) is allegedly in the process of combining fingerprint data from the National Automated Fingerprint Identification System (NAFIS) program, with the Crime and Criminal Tracking Network System (CCTNS), which will also be linked to facial image data through the use of AFRS across public and private spheres.[89] We are now seeing AI based technologies being deployed at a faster rate, but as technologies of control rather than empowerment. While they enter public imaginations through discourses of security and safety, their use is also creating new surveillance capacities for the state.

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While on one hand vast systems of data collection create granular profiles of individual citizens and states of hypervisibility, on the other hand, the rapid scaling of systems based on incomplete data sets also creates what has been termed 'the surveillance gap'—where a section of the marginalised population continues to lie outside mainstream data flows.[90] This can be seen in the example of ward level urban data, where there are instances of misreporting or omissions of data related to informal settlements. Thus, the paradox of a surveillance society, is one that allows the co-existence of states of hypervisibility for some and continued invisibility of others.

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Of further concern, is that AI can **reduce the accountability and transparency of public systems.** Due to the advances in techniques such as deep learning which uses artificial neural networks to make co-relations within millions of data points, AI algorithms can be highly

opaque in nature. While increasing amounts of data on citizens is being collected, AI algorithms continue to be behind systems of opacity due to intellectual property rights, or proprietary laws. Opacity in AI systems is also a result of socially structured opacity - which renders the decisions and actions behind the development and deployment of AI systems outside the purview of public scrutiny. Most of the AI development and algorithms in use are privately owned by tech companies, and the inner workings of these algorithms are protected by trade secrecy and proprietary laws. In India, due to a lack of state level technological capacity, the development and deployment of AI systems for public services has taken the route of public-private partnerships. Tech companies such as Google, Microsoft, IBM are increasingly embedded in the provision of services in sectors such as health, and education.[91] In several other sectors as well, there is a growing trend towards a reliance upon private companies to carry out the demands of public services. The increasing privatisation of public services can further lead to a loss of accountability and transparency over these systems.

The use of AI thus creates what Barns calls **entrepreneurial governance.** Calls for the increased participation of tech innovators and entrepreneurs to build AI systems for social good, raises questions around the enhanced role of tech entrepreneurs as agents of governance, with key responsibilities of the State becoming intermixed with profit driven considerations. In recent times, the Aadhaar project in India, has been one of the primary examples of growing forms of entrepreneurial governance. At the same time, there is a likely **disintermediation of lower level political representatives and administrators.** Much of the knowledge in public dealings is a part of situated practices and tacit knowledge. As AI systems begin to be used for decision-making in systems of governance, it is likely to impact the role and agency of locally embedded political representatives, bureaucrats and other officials.

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AI systems will reflect the biases of the data they are trained on, and thus also end up further **entrenching discrimination and exclusion.** There are numerous studies that document this in the United States, and some evidence being gathered in the Indian context as well. Data is inherently political: What data matters? How is it collected? What is it used for? In India, the politics of data is unlikely to be immune from existing divisions of caste, class, religion and gender, and is thus likely to be reflected in algorithmic systems as well. Connected to historical practices of data collection and due to the existence of biases and gaps, data is not purely technical, but is social. It is also political in so far as the decision of what is to be considered as meaningful and what is to be discarded as noise within any given data set, is based on selective practices of categorisation and measurement. These selective practices of categorisation and measurement create grounds for social exclusion. While it has been rightly pointed out that exclusionary practices and biases in decision making precede the use of AI technologies, what is important to note is that the unquestioned 'objectivity' associated with 'data as fact' makes it harder to argue against the stories it tells.

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The development of AI technologies generally requires prolific amounts of data- the more granular the data, the better. While AI based technologies promise efficiency and improved levels of productivity - be it in the case of delivery of services and public schemes, or better security and safety, it can **undermine both individual and group privacy.** The increasingly intertwined notions of national progress and technological development, through the use of AI based innovations to both solve societal problems and boost the economy, creates the notion that civil liberties and privacy can be foregone in the name of development and progress. While researchers have pointed out the futility of privacy and consent notices, in many instances of data collection

Surveillance not only undermines privacy but can also curtails other fundamental rights - such as the freedom of expression and association - which are central to the functioning of a healthy democracy.

for AI, gathering consent is not even attempted. The roll-out of mass surveillance networks, and interlinking of databases, also means that anonymity is becoming next to impossible. Surveillance not only undermines privacy but can also curtails other fundamental rights - such as the freedom of expression and association - which are central to the functioning of a healthy democracy.

Yet, even as the use of digital technologies to collect, process and analyse data is creating new avenues for societal control, the personalisation of content and messaging also presents a **new form of empowerment and inclusion** for many. NLP can enable participation and engagement across literacy barriers and enable new avenues for citizen partnership. The intersection of new media and digital technologies, as well as the increasing use of artificial intelligence, with democratic participation and politics is thus a complex phenomenon, involving both new forms of political control and individual agency. Yet, there are huge power differentials that arise between

those who control the capacities and applications for AI and those who do not. Ultimately, those with access and control of AI systems also have greater information, and hence power. This has created new information and power asymmetries, where huge amounts of power are within the hands of tech companies and governments, at the expense of citizens' agency. Arguments in favour of AI and democratic principles that state it can also be used for citizen engagement and empowerment are less convincing: something as basic as the Right to Information Act (RTI) is complicated by the difficulty of building transparent and explainable AI systems. Civil society organisations are also unlikely to have the resources and capacity to build and maintain AI. Given the risks associated with AI, from the manipulation of public opinion, exclusion, and surveillance, there are strong arguments for having clear boundaries around its use in public systems, or those that could influence or manipulate the public.

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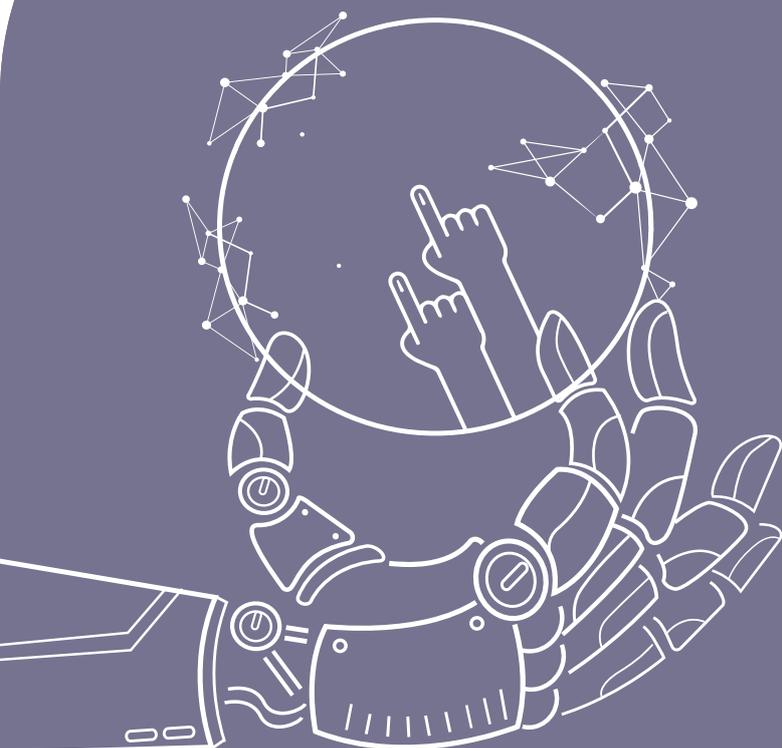
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