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GENERATIVE ARTIFICIAL INTELLIGENCE AND DIGITAL CONSTITUTIONALISM: A CRITIQUE

AUTHORED BY - LOKESH MITTAL & SANIGHDHA

“Artificial intelligence is not a substitute for human intelligence; it is a tool to amplify the human creativity and ingenuity.”

-Fei Fei Li

INTRODUCTION

Since time immemorial, human beings have strived to achieve the greatest of leisure by propelling their intelligence to summit the extraordinary. The inventions and discoveries are all but sterling examples of the same. The making of the wheel, the bullock carts, and even before that the discovery of fire and the uses of the same, all points to the direction of achieving highest fulfillment by maximizing optimism and minimizing everyday struggles, as well as unimportant discord points¹. The slow yet steady invention of Information and Communication Technology (ICT) systems has, somehow, or the other brought the biggest change in the lives of the people. From the usage of ARPANET (in the United States of America) by a handful of military officials- to making sophisticated communication system-networks, with the invention of satellites and internet; humans have been through a lot and have achieved a lot. But, artificial intelligence per se, is the biggest change of all.

Artificial intelligence is defined as, “artificial intelligence (AI) technology allows computers and machines to simulate human intelligence and problem-solving tasks. The ideal characteristic of artificial intelligence is its ability to rationalize and take action to achieve a specific goal. AI research began in the 1950s and was used in the 1960s by the United States Department of Defense when it trained computers to mimic human reasoning.”² Artificial intelligence systems work by

¹ KAUTILYA, ARTHSHASTRA (1915); LARRY DIAMOND, THE SPIRIT OF DEMOCRACY (2008); STEVEN LEVITSKY & DANIEL ZIBLATT, HOW DEMOCRACIES DIE (2018); E.B. WHITE, ON DEMOCRACY (2019); JOHN KEEGAN, THE AMERICAN CIVIL WAR (2010); ADAM I.P. SMITH, THE AMERICAN CIVIL WAR (2007); JAMES M. MCPHERSON, BATTLE CRY OF FREEDOM (1988).

² INVESTOPEDIA, <https://www.investopedia.com/terms/a/artificial-intelligence-ai.asp> (last visited July 2, 2024); MEDIUM, <https://medium.com/@ulhaqahtisham419/what-is-artificial-intelligence-ai-9f8124ce5895> (last visited July 2, 2024); BUSINESS TRANSFORMATION AND OPERATIONAL EXCELLENCE, <https://insights.btoes.com/what-is-artificial-intelligence> (last visited July 2, 2024); TECH TARGET, <https://www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence> (July 2, 2024); BRITANNICA,

using algorithms and data. First, a massive amount of data is collected and applied to mathematical models, or algorithms, which use the information to recognize patterns and make predictions in a process known as training. Once algorithms have been trained, they are deployed within various applications, where they continuously learn from and adapt to new data. This allows AI systems to perform complex tasks like image recognition, language processing and data analysis with greater accuracy and efficiency over time.³ The primary approach to building AI systems is through machine learning (ML), where computers learn from large datasets by identifying patterns and relationships within the data. A machine learning algorithm uses statistical techniques to help it “learn” how to get progressively better at a task, without necessarily having been programmed for that certain task. It uses historical data as input to predict new output values. Machine learning consists of both supervised learning (where the expected output for the input is known thanks to labeled data sets) and unsupervised learning (where the expected outputs are unknown due to the use of unlabeled data sets).⁴

Generative AI can be defined as, “it describes algorithms (such as ChatGPT) that can be used to create new content, including audio, code, images, text, simulations, and videos. Recent breakthroughs in the field have the potential to drastically change the way we approach content creation.”⁵ Generative AI refers to deep-learning models that can take raw data and “learn” to generate statistically probable outputs when prompted. At a high level, generative models encode a simplified representation of their training data and draw from it to create a new work that is similar, but not identical, to the original data. ⁶Generative models have been used for years in

<https://www.britannica.com/technology/artificial-intelligence> (July 2, 2024); UNIVERSITY SYSTEM OF GEORGIA, https://www.usg.edu/galileo/skills/unit07/internet07_02.phtml (July 2, 2024); JAVATPOINT, <https://www.javatpoint.com/history-of-the-internet> (July 2, 2024).

³BUILT IN, <https://builtin.com/artificial-intelligence> (July 2, 2024); ORACLE, <https://www.oracle.com/in/artificial-intelligence/ai-model-training/> (July 2, 2024), TECH TARGET, <https://www.techtarget.com/searchenterpriseai/definition/machine-learning-ML> (July 2, 2024); SCIENCE DIRECT, <https://www.sciencedirect.com/science/article/pii/S2667241323000113> (July 2, 2024); MAX TEGMARK, LIFE 3.0 (2017); YOSHUA BENGIO, DEEP LEARNING (2015); NICK BOSTRON, SUPERINTELLIGENCE (2014); BRIAN CHRISTIAN, THE ALIGNMENT PROBLEM (2020); STUART J. RUSSELL, HUMAN COMPATIBLE (2019); PETER NORVIG, ARTIFICIAL INTELLIGENCE (1995); GIOVANNI DE GREGORIO, DIGITAL CONSTITUTIONALISM: AN INTRODUCTION (CAMBRIDGE UNIVERSITY PRESS; EDOARDO CELESTE, ‘DIGITAL CONSTITUTIONALISM: A NEW SYSTEMATIC THEORISATION’ (2019).; RODNEY D. DYER & NIKHIL NAREN, ARTIFICIAL INTELLIGENCE AND LAW- CHALLENGES DEMYSTIFIED (2023); ZARYN DENTZEL, ‘HOW THE INTERNET HAS CHANGED EVERYDAY LIFE,’ (OPEN MIND BBVA).

⁴ Id.

⁵ MCKINSEY AND COMPANY, <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-generative-ai> (July 2, 2024); GARTNER, <https://www.gartner.com/en/topics/generative-ai#:~:text=for%20IT%20Leaders-,What%20is%20generative%20AI%3F,software%20code%20and%20produ> (July 2, 2024); NVIDIA, <https://www.nvidia.com/en-us/glossary/generative-ai/> (July 2, 2024); IBM, <https://research.ibm.com/blog/what-is-generative-AI> (July 2, 2024).

⁶ IBM, <https://research.ibm.com/blog/what-is-generative-AI> (July 2, 2024); ALTEXSOFT, <https://www.altexsoft.com/blog/generative-ai/> (July 2, 2024); LIBGUIDES, <https://pvamu.libguides.com/artificialintelligence> (July 2, 2024); MCKINSEY AND COMPANY,

statistics to analyze numerical data. The rise of deep learning, however, made it possible to extend them to images, speech, and other complex data types. Among the first class of models to achieve this cross-over feat were variational autoencoders, or VAEs, introduced in 2013. VAEs were the first deep-learning models to be widely used for generating realistic images and speech. “VAEs opened the floodgates to deep generative modeling by making models easier to scale,” said Akash Srivastava, an expert on generative AI at the MIT-IBM Watson AI Lab. “Much of what we think of today as generative AI started here.”⁷ The growth of Generative AI has been exponential but it has also given rise to negative uses as well, such as deepfake videos, deep fake audios, etc. According to Mike Walsh, “The potential applications for AI in the legal world are immense and include composing client briefs, producing complex analyses from troves of documents, and helping firms with limited resources compete with the largest groups. AI can help to conduct due diligence in corporate mergers and significantly aid legal education and knowledge acquisition in complex and fast-moving areas.”⁸ Thus, Generative AI or GAI does not only have an impact in the social world but also in the legal world. The recent short note on the same will strive to look at its impact at socialist-welfarist schemes of the government and their enhanced impact, with proper execution- however while staying in the confines of rules and regulations that have been already formed.

GENERATIVE ARTIFICIAL INTELLIGENCE AND DIGITAL CONSTITUTIONALISM

Artificial Intelligence is defined as a machine’s ability to imbibe and repeat human actions. This is a basic definition given by McKinsey and Company. One must be, however, able to note certain specific characteristics. These are machine and computer learning, human and machine intelligence, as well as simulation by large learning modules (LLMs), which are so intricately and sophisticatedly designed, that altering even a unit of the same can be a headache, even for an

<https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-generative-ai> (July 2, 2024; KAGGLE, <https://www.kaggle.com/code/sanjushasuresh/generative-ai-creating-machines-more-human-like> (July 2, 2024).

⁷ IBM, <https://research.ibm.com/blog/what-is-generative-AI> (July 2, 2024); YOSHUA BENGIO, DEEP LEARNING (2015); NICK BOSTRON, SUPERINTELLIGENCE (2014); BRIAN CHRISTIAN, THE ALIGNMENT PROBLEM (2020); STUART J. RUSSELL, HUMAN COMPATIBLE (2019); PETER NORVIG, ARTIFICIAL INTELLIGENCE (1995).

⁸ LEXISNEXIS, <https://www.lexisnexis.com/html/lexisnexis-generative-ai-story/> (July 2, 2024); SPOTDRAFT, <https://www.spotdraft.com/blog/ai-due-diligence> (July 2, 2024); MENTORIA, <https://blog.mentoriam.com/the-ai-revolution-in-reshaping-legal-careers/> (July 2, 2024); DELOITTE, <https://www2.deloitte.com/content/dam/Deloitte/th/Documents/deloitte-consulting/generative-AI-dossier.pdf> (July 2, 2024); EMERJ ARTIFICIAL INTELLIGENCE RESEARCH, <https://emerj.com/ai-sector-overviews/ai-in-law-legal-practice-current-applications/> (July 2, 2024); YOSHUA BENGIO, DEEP LEARNING (2015); NICK BOSTRON, SUPERINTELLIGENCE (2014); BRIAN CHRISTIAN, THE ALIGNMENT PROBLEM (2020); STUART J. RUSSELL, HUMAN COMPATIBLE (2019); PETER NORVIG, ARTIFICIAL INTELLIGENCE (1995).

expert. According to George Lawton and various historical records, GAI is not entirely a new concept. The highly sophisticated imagery and content generation, might be new but GAI was introduced way back in the 1960's via Chatbots. However, research works point out that it was only in the year 2014, when GAN (Generative Adversarial Networks) were prepared, that the world got entirely convinced of the AI power. Developed by Ian Goodfellow, and his colleagues, GAN is a class of machine learning framework for approaching generative AI.

Today, anything can be generated via the simple concept of AI and a little bit training as well as learning of computer systems. Different open learning schools have opened in online and offline modes to teach these learnings at a very affordable cost. Then, it is not at all surprising that everyone believes that the Future is AI only. AI has already penetrated today's legal field, the teaching department, as well as the military aspect of national security as well. On March 28, 2023 (The Tribune), it was reported that, the Punjab and Haryana High Court broke new ground when one of its esteemed Justices, Justice Anoop Chitkara merged India's adversarial criminal justice system with growing usage of artificial intelligence- when he referred to CHATGPT while deciding and approving his won judgment in a murder trial. His simple search was to find out world renowned opinions on bail jurisprudence, "when murder/ assault is laced with cruelty". Justice Chitkara opined that this is probably the first legal decision in the country where artificial intelligence data platform "trained with multitude of knowledge" was used to put things into perspective in that particular case. This shows ready acceptance of one of the socio-legal fields of India, into AI.

Before analyzing the cross-sectional multidisciplinary aspect of Generative AI and social welfare sector of India, one must be aware of the genesis of AI in India and the roots that supports its validity across spheres of life. This is imperative to note that not even a single thing, let lone an invention can be applied in India until and unless the Constitution allows it. The theory of Grundnorm propounded by Hans Kelsen is still the philosophical basis and ground on which technology and its related inventions stand. This is where the concept of digital constitutionalism comes into the picture. According to Stanford Encyclopedia of Philosophy, "*Constitutionalism is the idea, often associated with the political theories of John Locke and the founders of the American republic, that government can and should be legally limited in its powers, and that its authority or legitimacy depends on it observing these limitations.*"⁹ As the expression suggests,

⁹STANFORD ENCYCLOPEDIA OF PHILOSOPHY <https://plato.stanford.edu/entries/constitutionalism/> (July 2, 2024).

digital constitutionalism is made of two souls. While the first term ('digital') refers to technologies based on the Internet such as automated technologies to process data or moderate content, the second ('constitutionalism') refers to the political ideology born in the eighteenth century where, according to the Lockean idea, the power of governments should be legally limited, and its legitimacy depends upon complying with these limitations. Despite this chronological gap, the adjective 'digital' entails placing constitutionalism in a temporal and material dimension. Digital constitutionalism indeed refers to a specific timeframe, precisely the aftermath of the Internet at the end of the last century. Moreover, from a material perspective, this adjective qualifies constitutionalism, moving the focus to how digital technologies and constitutionalism affect each other. Merging the expressions 'digital' and 'constitutionalism' does not lead to revolutionizing the pillars of modern constitutionalism. Instead, it aims to understand how to interpret the (still hidden) role of constitutional law in the algorithmic society. Therefore, digital constitutionalism should be seen not as a monolith but as the expression of different constitutional approaches to digital technologies from an internal and external point of view¹⁰. One influential definition of digital constitutionalism is 'articulating limits on the exercise of power in a networked society.' If defined that way, it is hard to disagree with: it would be unusual to argue for unlimited power in a networked society or anywhere else. It is also evidently a thin definition – in the sense that its criteria are easily met in a variety of circumstances, some more desirable than others, and that it clearly does not articulate all potentially desirable objectives for internet governance. Power in networked societies has always been limited. As Julie Cohen and Amy Kapczynski show, descriptions of the emerging internet and the contemporary surveillance-capitalist oligopoly as 'lawless' are extremely misleading. Both were always highly regulated, albeit in ways that generally favored corporate interests. Equally, international trade law and the US's commitment to free-market, multistakeholder internet governance have always constrained states' power to regulate technology. Limits on power do not necessarily serve free speech, human dignity, or equality.¹¹

Constitutionalism is not a univocal and immutable concept, but has historically evolved, as the

¹⁰ Giovanni De Gregorio, *Digital Constitutionalism: An Introduction* (Cambridge University Press) <https://www.cambridge.org/core/books/digital-constitutionalism-in-europe/digital-constitutionalism-an-introduction/5C9CCFB7B923D33E7E85F93D02AFA761> (July 2, 2024); THE CONSTITUTION OF INDIA, 1950; EDOARDO CELESTE, DIGITAL CONSTITUTIONALISM- THE ROLE OF INTERNET BILLS OF RIGHTS (2022); GIOVAANI DE GREGORIO, DIGITAL CONSTITUTIONALISM IN EUROPE- REFRAMING RIGHTS AND POWERS OF THE ALGORITHMIC SOCIETY; ANDRIO MONTI, THE DIGITAL RIGHTS DELUSION- HUMANS, RIGHTS AND THE TECHNOLOGY OF INFORMATION; EDOARDO CELESTE & AMELIE HELDT, CONSTITUTIONALIZING SOCIAL MEDIA.

¹¹ The Digital Constitutionalist, <https://digi-con.org/a-progressive-view-of-digital-constitutionalism/> (July 2, 2024)

different denominations of ‘liberal’ or ‘democratic’ constitutionalism demonstrate (Dowdle and Wilkinson 2016; Costanzo 2012).¹² Its contemporary notion rotates around the idea of limiting the power of government, and includes, among its foundational values, democracy, the protection of human rights and the rule of law (see Sajó 1999; Grimm 2010; Waldron 2010)¹³. Digital constitutionalism is a new strand of contemporary constitutionalism. However, it does denote a new stage of evolution of constitutionalism, which marks a revolutionary change and implies the transition to new values and ideals, like it happened when constitutionalism eventually became ‘democratic.’ It is rather one of its recent directions. In this expression, ‘digital’ does not directly qualify the term ‘constitutionalism’, but it is rather an adverbial conveying the idea that one is referring to the constitutionalism related to the digital environment. Digital constitutionalism consequently shares the foundational values and the overall aims of contemporary constitutionalism, but focuses on the specific context affected by the advent of digital technology. Also, digital constitutionalism is an ‘ism’ (cf. Peters 2014; Ridola 2018; Blokker 2011¹⁴), and therefore one could define it as the ideology which aims to establish and to ensure the existence of a normative framework for the protection of fundamental rights and the balancing of powers in the digital environment ¹⁵(cf. Costanzo 2012).¹⁶

As we traversed through the time and centuries passed by, an important aspect which kept the society flourishing and evolving was technological revolutions also termed industrial revolutions. Sooner the presence of these technologies became an important aspect of the sustenance of evolution in the society. One prime example of technological thrust to society in 21st century is due to the proliferation of internet and internet lead services also known as digital services. The evolution of Internet changed the very nature of life as it created a world which is parallel and indistinguishable to the real world and by many people it has been perceived as a ‘substitute for real life.’ Since, we created a digital space that functions like real world, our physical personalities got substituted as ‘data’ on digital space. Data also termed as ‘new oil’ has fueled the evolution of data lead technologies such as Artificial Intelligence¹⁷. This channelized evolution of the

¹² Jeremy Waldren, ‘Constitutionalism: A Skeptical Book’ (ResearchGate, May 2012) https://www.researchgate.net/publication/48905336_Constitutionalism_A_Skeptical_View (July 2, 2024)

¹³ Ibid.

¹⁴ Ibid.

¹⁵ EDOARDO CELESTE, DIGITAL CONSTITUTIONALISM- THE ROLE OF INTERNET BILLS OF RIGHTS (2022); GIOVAANI DE GREGORIO, DIGITAL CONSTITUTIONALISM IN EUROPE- REFRAMING RIGHTS AND POWERS OF THE ALGORITHMIC SOCIETY; EDOARDO CELESTE, ‘DIGITAL CONSTITUTIONALISM: A NEW SYSTEMATIC THEORISATION’ (2019)

¹⁶ EDOARDO CELESTE, ‘DIGITAL CONSTITUTIONALISM: A NEW SYSTEMATIC THEORISATION’ (2019)

¹⁷ RODNEY D. DYER & NIKHIL NAREN, *ARTIFICIAL INTELLIGENCE AND LAW- CHALLENGES DEMYSTIFIED* (2023); ZARYN DENTZEL, ‘HOW THE INTERNET HAS CHANGED EVERYDAY LIFE,’ (OPEN MIND BBVA)

present 'big thing' on internet that is Artificial Intelligence.

With Industrial Revolution 4.0 and development of technologies based on Artificial Intelligence, we stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another¹⁸. Within the Artificial Intelligence (AI), the Generative AI with its scale, scope, and complexity will progress towards a period that humankind has never experienced before because Generative AI has the potential to reset the system of power, access to knowledge and innovation, production, storage, and management which will make a profound impact on governance in 21st century. Therefore, the technological sustainability of Generative AI is essential for an equitable growth and sustenance of mankind. An important facet of the notion of 'Technological Sustainability' in present century is viewed from the lens of legal sustainability. Legal sustainability of these technological innovations is essential for administering the 'organic growth' of the society via strengthening justice in the era of 'Digitally Data Intelligent technologies'. As digital constitutionalism, as a concept expands, one needs to understand that the growth in the jurisprudence of this concept is highlighted and furthered by the opening up and liberalization of the concept of constitutionalism, from the age of textualist or originalist notions towards the concept of living constitutionalism¹⁹. In the context of AI, digital constitutionalism strives to recognise the fact that growing digitization opens up new era of fundamental rights (such as digital privacy, gene editing, and conferring of legal personality on AI generated synthetic data), as well as laws that can limit the misuse of the same- such as data protection laws, so as to harmonize conflicting interests.

GENERATIVE AI AND ITS OPERATIONAL ANALYSIS IN THE SOCIO-WELFARE SECTOR

Social sector is that sector of a country's economy, that focuses upon welfare of the demography and includes governance mechanisms, which can lead a country on the progressive path of development. This includes the legal, medical, teaching, military, socio-cultural, geriatric and the policy-formulation fields. Starting with the legal field, it is well known that the Supreme Court has been highly active when the Chief Justice of India (presently), Justice Dr. DY Chandrachud

¹⁸ Klaus Schwab, 'The Fourth Industrial Revolution: what it means, how to respond' (JAN 14, 2016) <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond> (July 2, 2024).

¹⁹ Henry Suag Suetra, Technology and Sustainable Development- The Promises and Pitfalls of Techno-Solutionism (ResearchGate), https://www.researchgate.net/publication/369730929_Technology_and_Sustainable_Development_The_Promise_and_Pitfalls_of_Techno-Solutionism July 2, 2024.

took the baton in his capable hands. Use of AI has been steady since the Apex Court decided to transcribe all the judgments of the Supreme Court into four vernacular languages of India, via the use of machine learning and AI. This, not only promoted justice and equity to the illiterate persons in the remotest fields of the country, but also proved to be effective, in providing a vernacularly balanced legal field. SUPACE assists in judicial decision making and SUVAAS focuses on breaking language barriers of Indian judicial system. The E-Courts Project, conceptualized with a vision to transform Indian Judiciary is another step in the same direction. The use of AI in the legal field is fraught with humungous challenges but it is also inevitable that use of integrated systems of grievance redressal and dispute resolution are need of the hour. Courts of other jurisdictions have been using AI systems such as, use of COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) by the US Courts, use of HART (Harm Assessment Risk Tools) by the UK, and many more. In the medical field, since the telemedicine system has originated and right to health has been given a desired status, deep learning algorithms are being used in tackling the growing challenges of healthcare. Also, deep learning algorithms, particularly convolutions and convolutional neural networks (CNNs) and Recurrent neural Networks (RNNs) can significantly enhance diagnostic accuracy by analyzing medical images, such as X-rays and MRIs, thus improving patient care. Similar is the case with policy making and criminal justice field (Facial Recognition Technologies FRTs), teaching and education field (online learning apps and related algorithms), military field (drones and automated systems of threat evaluation), et al, whereby AI has truly revolutionized the existing concepts of growth and development.

CONCLUSION AND WAY FORWARD

Conclusively, generative AI has immense scope in social sector of India, but the same must be for the benefit of the society and not for ulterior motives. The law-making agencies must fill the legal lacunas in the field of AI, thereby enabling secure usage of the system for future development. India, must also step forward and lead the whole world, like it always has in bringing positive remarkable changes in the system wherever it lacks. Thus, the same would not only benefit the society, but also the nation and the world, because for India, the whole world is a family of oneness and togetherness.