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ARTIFICIAL INTELLIGENCE IN THE NEXUS OF LAW: REVIEW OF EXISTING LEGAL FRAMEWORK ACROSS THE GLOBE AND CHALLENGES

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Abstract
Artificial Intelligence (AI) is the latest innovation in the field of the science and technology; the frontiers of its application in various sectors are still in nascent stage and are expanding. AI means development of computer systems that are able to perform tasks normally requiring human intelligence. The rise of AI is both obvious and inevitable. The one thing is certain that AI is going to be part of our daily life sooner than we can imagine and in many sectors it has already become inseparable part of our daily transactions. It is well accepted that technology can become boon or curse depending on how it is handled. States and innovators are conscious and aware of the potential misuse of AI Technology. So, there is a consensus prevailing amongst the stakeholders about the necessity of regulating AI Technology in order to prevent its misuse. Misuse of AI Technology breaches various human rights. Leading countries across the world like USA, UK, Canada, France, Australia, Russia, and China have either made legislative framework to regulate AI Technology or are in the process of making it. The Government of India is also keeping close eye on the developments happening in the field of AI Technology. The objectives of this research paper is to highlight the potential threats and benefits of the AI Technology, to make comparative analysis of various legislative framework regulating AI Technology across the globe, what India should take into account while framing laws regarding regulation of AI Technology. The research paper is based on doctrinal research method which has used secondary data available at various science and technology websites, books and legal departments of various governments.
Keywords: Artificial Intelligence (AI), Misuse of AI Technology, Human rights, Legislative framework, Comparative analysis.

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I. Introduction

Man has ability to think and sum up his experience and he constantly goes on discovering inventing, creating and advancing. It is this ability of man, which is responsible for the superiority of human race in this planet over all other species. This ability is so much important that right to development is recognized as a human right. The latest and the most fascinating advancement of recent time in the field of science and technology, is Artificial Intelligence.

In simple terms, artificial intelligence (AI) means deploying machines, especially computer systems in doing the works which normally require human intelligence. AI programming focuses on cognitive skills that include learning, reasoning self-correction and creativity. The terms artificial intelligence, machine learning and deep learning are open intelligently used but there are distinctions between these terms. AI refers to simulation of human intelligence by machine. In

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short, machine learning means learning by machines. It covers ever-changing set of new technologies, which are developed machine running enables software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Deep learning is a subset of machine running and is based on our understanding of how the brain is structured. Deep learning uses the artificial neural network structure and examples are the self-driving cars and ChatGPT.[1]

II. Evolution of Artificial Intelligence

In 1955, John McCarthy first coined the term "Artificial Intelligence" at a workshop held by him. For initial 2 decades were full of struggle for AI research. The AI boom started after 1980s. This came from both new research and financial support from government. In 1997, Deep Blue developed by IBM defeated the world chess champion, Gary Kasparov. In the same year windows released speech recognition software. And after that there was no looking back and application of AI bloomed into various sectors.[2]

III. Artificial Intelligence in its Blooming Nature

AI has already become part of our daily life in many ways and is only going to increase further. Following are some of the examples. This list is not exhaustive.[3]

- AI is good at detail oriented jobs. AI has proven to be just as good as doctors, if not better at diagnosing certain cancers.
- AI is useful in heavy industries, including banking and securities firms and insurance, to reduce the time it takes to analyse big data.

[1] Nicole Laskowski & Linda Tucci, 'Artificial Intelligence (AI)' (November, 2023) TechTarget <https://www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence> accessed 4 January, 2024

[2] Rockwell Anyoha, 'The History on Artificial Intelligence' (28 August, 2017) Harvard University <https://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/> accessed 4 January, 2024

[3] Trupti Munde, 'Advantages and Disadvantages of Artificial Intelligence' The Education Magazine <https://www.theeducationmagazine.com/advantages-and-disadvantages-of-artificial-intelligence/> accessed 5 January, 2024

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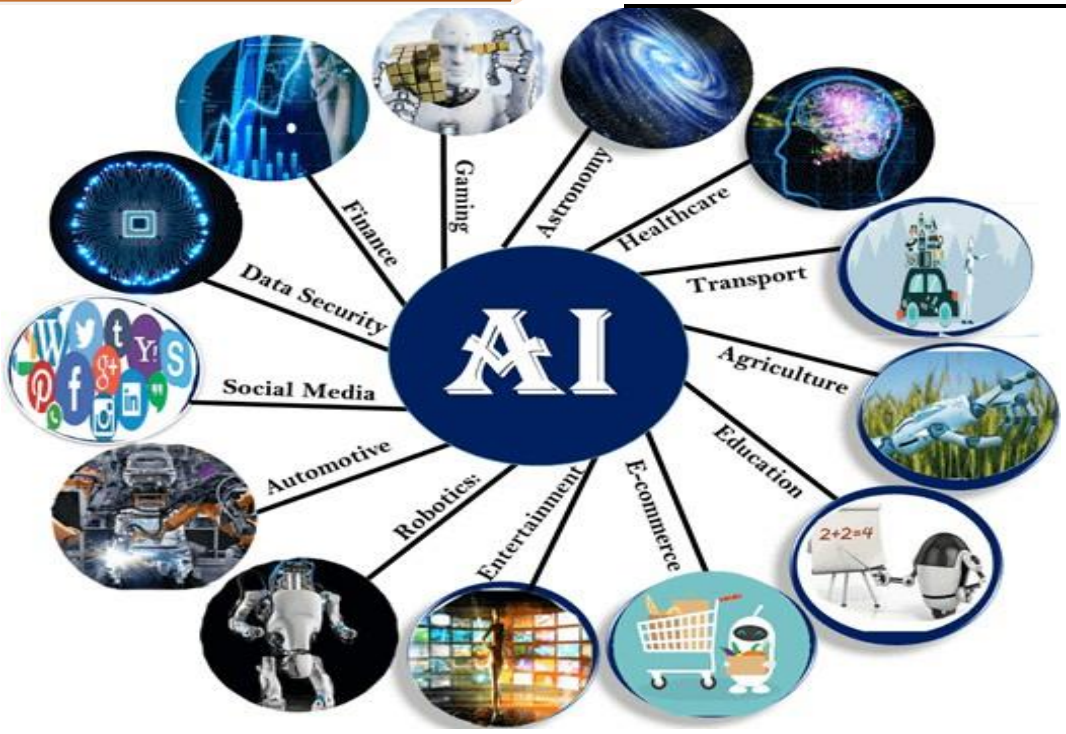

Figure 1.0 – Applications of Artificial Intelligence
(https://static.javatpoint.com/tutorial/ai/images/application-of-ai.png)

- AI saves labour cost and increase productivity. For example, use of warehouse automation, which grew during pandemic and is expected to increase with the integration of AI and machine learning.
- AI can help achieving consistent operating results even in small businesses, ensuring seamless services to their customers and helps in brand building.
- AI can personalize the content messaging, advertisements, recommendations and website for individual customers.

However, like with any other technology, if used with mala fide intention, AI can cause enormous damage to mankind. World has witnessed such situation in case of nuclear science during World War 2. Fortunately, innovators and governments across the globe are aware of risk of potential misuse of AI. This is evident from the famous open letter of 2015, signed by Elon Musk, Stephen Hawking along with many others urging the world leaders to ban the development of autonomous weapons.

IV. Potential Disadvantages of Artificial Intelligence Technology

- Loss of Jobs: Even the CEO of OpenAI, Sam Altman admitted that generative AI would cause a ‘disruption’ in the employment market. While he hoped that this technology would improve the quality of jobs in the long run, at the moment, it might widen the economic gap in the world.
- Biased results due to Algorithm: One of the core arguments favouring AI regulations is that it is known to give biased results based on the inherent biases in the data it is trained on. There have been several instances of racial and gender biases finding their way into AI outcomes.

The experience of Dutch authority should be kept in mind. AI based filter used by Dutch tax authority denied many legitimate beneficiaries their right of child care benefits, and heavy tax was imposed on them. The results were devastating for thousands of families. Debt traps, broken

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marriages, and abandonment of children were some of the consequences. The scandal came to the surface in 2019, after at least 7 years of inhuman AI based algorithmic discrimination and actions taken by the state on basis of it.[4]

- Social Surveillance and Impersonation: Most of us are not aware of social surveillance in some form or another. It is common to search for holidays to Lakshadweep and then find offers for Lakshadweep holiday packages in your inbox or targeted ads. But impersonation is a new pitfall of AI that we are starting to experience. A speech by former U.S. President Donald Trump recently went viral. Turns out, it was an AI impersonation or deep fake AI. This is a warning bell for the future, where fake speeches can impact election results and justice systems.

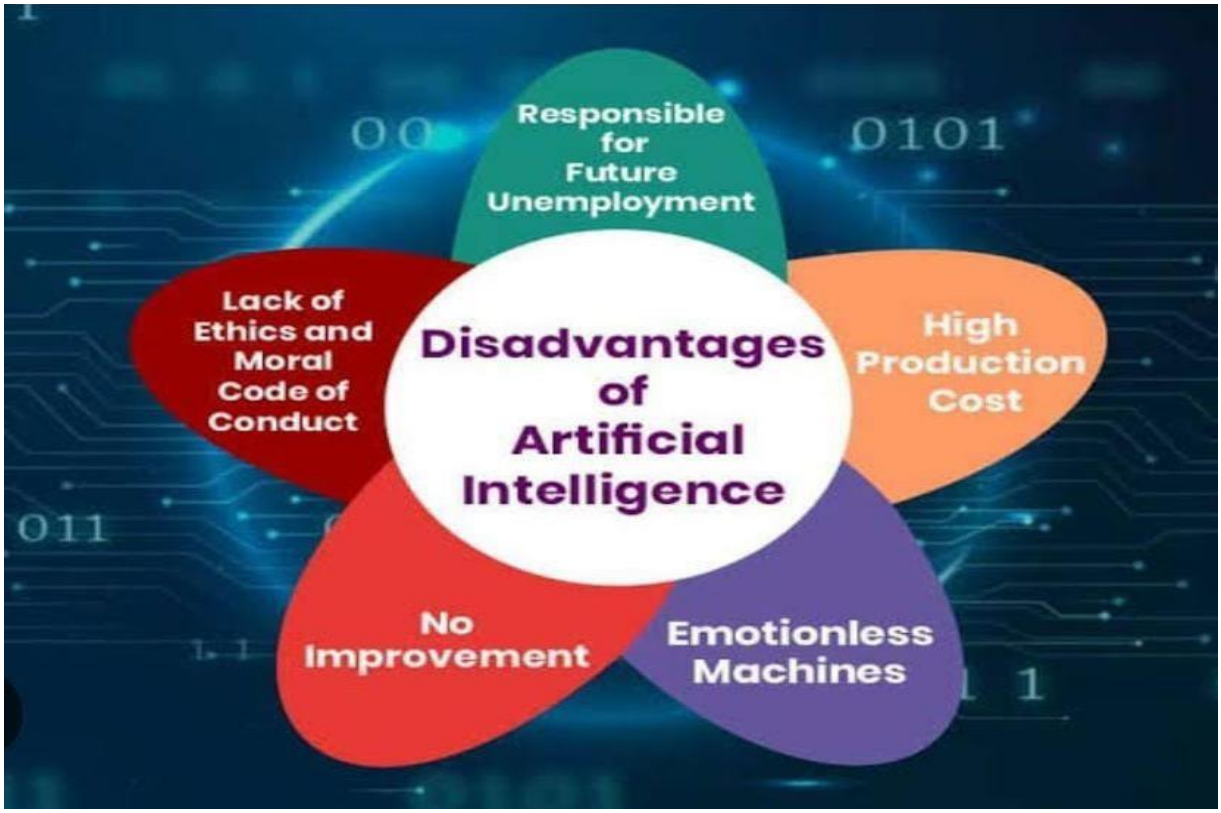

Figure 2.0 – Disadvantages of AI (https://www.theeducationmagazine.com/advantages-and-disadvantages-of-artificial-intelligence/)

- AI warfare: AI promises to change the ways of warfare in the years to come. In the near future, AI can be used to create robots that kill targets autonomously without human intervention. The use of AI technology in weapons of mass destruction is a distinct possibility.
- Anything which is useful but risky must be regulated by proper legal regime. So, AI also must be regulated by clearly defined legal regime, for following purposes:
- Ensuring Ethical Use of Artificial Intelligence
- Safeguarding Human Rights and Safety

[4] Melissa Heikkilä, 'Dutch Scandal serves as a warning for Europe over risks of using algorithms' (29 March, 2022) Politico <https://www.politico.eu/article/dutch-scandal-serves-as-a-warning-for-europe-over-risks-of-using-algorithms/> accessed on 5 January, 2024

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- Mitigating Social and Economic Impact
- Regulating Access to AI technology

V. Artificial Intelligence: Roadblocks in Regulation and Mitigation

- Scope of AI technology and its integration with other technologies is fast advancing at rapid speed.
- May discourage innovation and derail economic development.
- Difficulty in striking balance between human rights protection and fostering innovation. Right to development is also a third generation human right but AI, as it may have effect on future generations as well, is a subject of 4th generation human right.

VI. Artificial Intelligence and Legislative Framework: Comparative Study

❖ United States of America (U.S.A.):

The Blueprint for an AI Bill of Rights was published by the White House Office of Science and Technology policy on 4th October, 2022. The Blueprint is said to be different from EU draft of AI Act in a way that it is non-binding and lists five principles that are intended to minimise potential risks from AI systems.[5]

The 5 important principles mentioned in the Blueprint of AI Bill of Rights:[6]

- Safe and effective systems
- Algorithmic discrimination protections
- Data privacy
- Notice and explanations
- Human alternatives, consideration and fallback

On 30th October, 2023, President Biden signed an executive order on artificial intelligence which required the companies to submit to the Federal government about the risk that their systems can aid countries or terrorist to make mass destruction weapons. The order also aims reducing the dangers of deep fakes that could change election results or deceit consumers. As per reports the order is an effort by the President to demonstrate that the United States, considered the leading power in fast moving artificial intelligence technology, will also take the lead in its regulation. Vice-president Mrs. Harris said at the White House, "we intended that the actions we are taking domestically will serve as a model for international action."[7]

❖ China:

In 2017, the Chinese state Council first established the "Next Generation Artificial Intelligence Development Plan." Ethical guidelines for dealing with AI were published in 2021 and then, in January 2022, it published two laws relating to specific AI application namely, algorithm provisions which came into force since March 2023 and draft deep synthesis provisions which are

[5] Dr. Benedikt Kohn & Fritz-Ulli Pieper, 'AI regulation around the world' (9 May, 2023) TaylorWessing <https://www.taylorwessing.com/en/interface/2023/ai---are-we-getting-the-balance-between-regulation-and- innovation-right/ai-regulation-around-the-world> accessed 6 January, 2024

[6] Blueprint for an AI Bill of Rights, 2022

[7] Cecilia Kang & David E. Sanger, 'Biden Issues Executive Order to Create A.I. Safeguards' The New York Times (30 October, 2023)

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at the draft stage.

➢ **Algorithm provisions –** The regulations aim to address the abuse of algorithmic recommendation systems. It includes provisions relating to content management, labelling or tagging, data protection, transparency and fair practices. Even additional regulations are applied in areas with regard to minors or e-commerce services. Fine equivalent to about 1,570 to 15,705 US dollars may be imposed on non-compliance to the provisions.

➢ **Draft deep synthesis provisions –** The provisions are intended to regulate the deep synthesis technologies, especially to combat deep fakes. Except for fair practices, the law covers all the other aspects mentioned above. Also some obligations are put on online app store operators. Maximum penalties are same as in algorithm provisions. Even the consultation on the draft of Administrative Measures for Generative Artificial Intelligence Service by China's Cyberspace Administration (CAC) has been put on halt. Regulations in the draft require that the new AI products developed in China must go through a safety assessment before being made available to the general public. Particularly, regulation requires AI generated content should be truthful and accurate and cancel out content that underestimate State Power or include terrorist and extremist propaganda, violence, pornographic or obscene information, discrimination, ethnic hatred or other contents that could disrupt economic or social order. It requires service providers to take measures on preventing generation of false information and avoid harmful content. Service providers must update technology within 3 months to prevent inappropriate content from being generated again. Those who do not comply with the regulations may be fined, suspended from there services or be subject to criminal investigation.

❖ **European Union (EU):**

The European Union is making legislation on Artificial Intelligence (AI) and it is agreed upon at the meeting held in December 2023. The artificial intelligence act will differentiate AI systems by risks and mandate differential requirements. More stringent amendments will be made by the European lawmakers but the companies said the legislation impact Europe's "competitiveness and technological sovereignty."[8]

The AI act mainly aims "to strengthen Europe's position as a global hub of excellence in AI from the lab to the market, ensure that the AI in Europe respects EU's values and rules and harness the potential of AI for industrial use."

[8] Spencer Feingold, 'The European Union's Artificial Intelligence Act, Explained' (30 June, 2023) World Economic Forum <https://www.weforum.org/agenda/2023/06/european-union-ai-act-explained/> accessed 7 January, 2024

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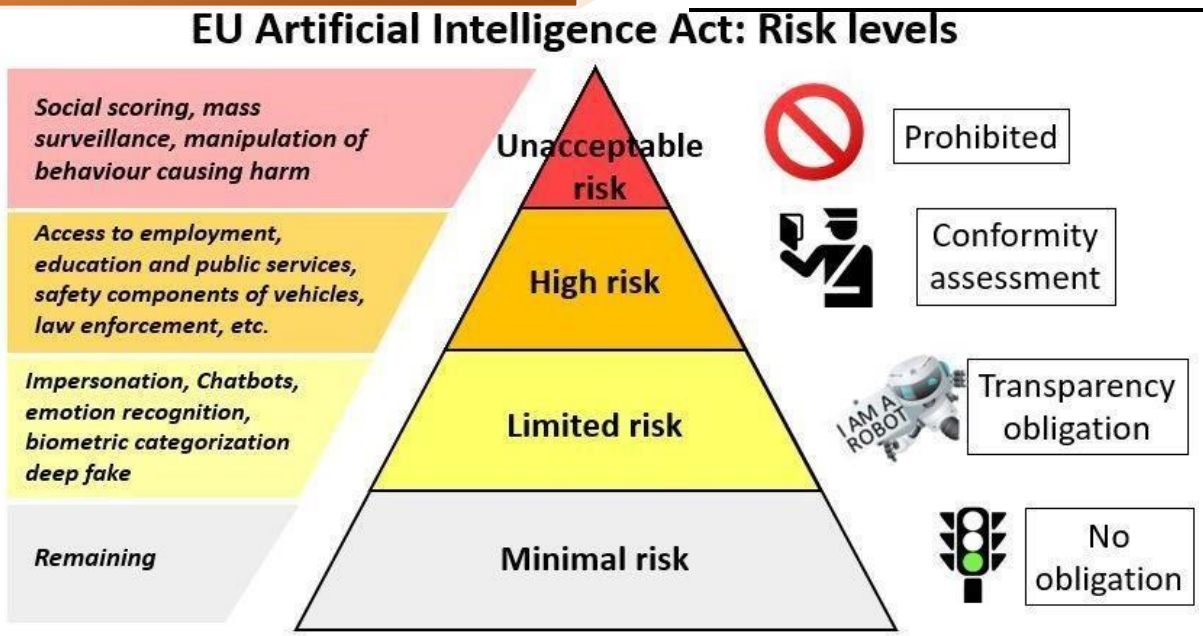

Figure 3.0 – EU Artificial Intelligence Act: Levels of Risks (Source: Telefónica)

The stand out point of the AI act is a classification system which determines the level of risk the technology imposes on the health and safety or fundamental rights of a person. The framework includes the following risk tiers: unacceptable, high, limited and minimal.

Systems with limited and minimal risk such as spam filters or video-games are allowed with little requirements other than transparency obligations. Systems with unacceptable risk like government social scoring and real-time biometric identification system in public spaces are prohibited with little exception. High risk systems are permitted after passing through the regulations which require rigorous testing, proper documentation and accountability with detailed human supervision. The legislation draws regulations around the General Purpose AI which means that the AI can be used for varying purposes with varying degrees of risk. The technologies include large language model generative AI system like Chat GPT.

The AI act has provisions for harsh punishments in case of non-compliance. For companies, fines can go up to €30 million or 6% of global income. Fines are also levied on submitting false or misleading documentation to the regulators.

The act aims at establishing a European Artificial Intelligence Board, which will supervise the implementation of the regulations and their uniform application across the EU. The body will work on giving opinions and recommendations on the issues arising as well as provide guidance to various national authorities.

There are some group of safeguards and narrow exceptions that are available under the act for law enforcement. The use of Real-time Biometric Identification System (RBI) in public spaces is allowed for law enforcement purposes, provided there is prior judicial authorisation and is strictly defined in list of crimes.[9]

[9] 'Artificial IntelligenceAct: deal on comprehensive rules for trustworthy AI' (9 December, 2023) News European Union <https://www.europarl.europa.eu/news/en/press-room/20231206IPR15699/artificial-intelligence-act-deal-on-comprehensive-rules-for-trustworthy-ai> accessed 7 January, 2024

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Real-time RBI has to be in accordance with the strict conditions and its use is limited both in time and location, for the following purposes:

- Targeted searches for victims of abduction, trafficking, sexual exploitation, etc.
- Prevention of terrorist threats and activities
- Finding or identifying person who has been suspected of the specific crimes being committed as mentioned in the regulation.

❖ **United Kingdoms (U.K.):**

National AI strategy was published by the UK in September 2021 setting out a 10 year plan to "make Britain a global AI superpower." Department for Digital, Culture, Media and Sport (DCMS) has announced its AI Action Plan as a part of its National AI Strategy in July 2022. AI Paper set out provided rules depending on 6 principles for regulators to apply with flexibility to support innovation and at the same time ensuring use of AI in safe manner and avoid unfair bias. The government allowed different regulators to take a tailored, more contextual approach to the use of AI rather than centralising AI regulation.[10]

The UK Government then published its policy paper on "A pro-innovation approach to AI regulation" which was made open for consultations and its responses will help to develop the regulatory framework.[11]

The UK Government has set out five intersecting principles that will underline the UK's AI regulatory approach:

- Safety, security and robustness
- Appropriate transparency and explainability
- Fairness
- Accountability and governance
- Contestability and redress

The government is not planning to introduce new legislation so as to avoid unnecessary burden on businesses. But rather it will issue five principles to the UK regulators on the non- statutory basis and ask them over a period of 12 months to give guidance on how they will be applied to AI technologies.

In the paper, the UK Government is standing by its commitment to establish a regulatory sandbox for AI to unite regulators to support innovators directly. This sandbox will help government to understand that how regulation interacts with the new technologies and refined this interaction wherever necessary.

The areas for continued monitoring and evaluation are:

- Assessing risks across the economy from AI
- Supporting tests and initiative to help new AI technologies to come to the market
- Providing AI education and awareness to businesses and citizens

[10] Debbie Heywood, 'The UK's approach to regulating AI' (9 May, 2023) TaylorWessing <https://www.taylorwessing.com/en/interface/2023/ai---are-we-getting-the-balance-between-regulation-and- innovation-right/the-uks-approach-to-regulating-ai> accessed 7 January, 2024

[11] 'UK AI REGULATIONS 2023' (21 June, 2023) International Trade Administration <https://www.trade.gov/market-intelligence/uk-ai-regulations-2023> accessed 7 January, 2024

- Promoting interoperability with international regulatory frameworks

The UK government has shown commitment towards engaging internationally to support interoperability across different regulatory frameworks by hosting an AI Safety Summit in November 2023. In the Bletchley Declaration on AI safety there were 28 countries from across the globe and the European Union who agreed to the urgent need to understand and manage risks through a new joint global effort to ensure AI is developed and deployed in a safe, responsible manner for the benefit of the global community. The Declaration aims to establish shared agreement and responsibility on the risks, opportunities and a forward movement for international collaboration on frontier AI safety and research, particularly through scientific collaboration.
The UK Government will discuss on establishing a "central function" to provide a real-time assessment on how the regulatory framework is performing and to engage with experts and with the public at large. This "central function" would:

- Develop and maintain a central monitoring system, evaluation framework, regulatory guidance system and risk register monitor
- Help support innovators by removing barriers to innovation and identifying cross- cutting regulatory issues
- Provide guidance and raise awareness to businesses
- Monitor trends and opportunities in AI development

The UK is pro-business approach and passion to work with businesses on responsible and safe innovation rather than only focusing on risks. Some concerns remain around UK regulators' reach to cover AI and how UK Government will coordinate AI regulations in different industries simultaneously.

❖ **India:**

NITI Aayog in 2018 published the National Strategy on Artificial Intelligence (NSAI) which mainly talked about adopting artificial intelligence in five public sector areas in a safe manner and which dispenses benefits to all citizens. One of the objectives of this strategy was to ensure the safe and Responsible use of AI (RAI).[12]
The RAI principles came into picture because of the need for developing regulatory frameworks to avoid potential risks/harms of AI while maximizing its benefits for the public at large. Facial Recognition Technology (FRT) has been the first to be examined under the RAI principles.
FRT has potential benefits of efficient and timely execution of existing process in various sectors but at the same time poses risks to basic human and fundamental rights like individual privacy, equality, free speech and freedom of movement.
Constitutional morality was seen as the most important element for AI ethics principles in India and thus putting constitutional rights and ethos to the paramount consideration for a responsible AI.
Facial Recognition Technique refers to different kinds of technologies that are designed to trade and identify persons using images. Its benefit includes reducing manual efforts and bringing more efficiency in processes.

[12] 'India and Generative AI' (5 June, 2023) Drishti IAS <https://www.drishtiias.com/daily-updates/daily-news- editorials/india-and-generative-ai> accessed 8 January, 2024

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Risk associated with FRT:

- Design based risks-
- Inaccuracy due to technical factors
- Inaccuracy due to bias caused by underrepresentation
- Inaccuracy due to lack of training of human operators
- Inaccuracy due to glitches
- Security is due to data breaches and unauthorised access
- Accountability and legal liability issues
- Rights based challenges-
- Privacy related risks
- Issues of informational autonomy
- Threat to anonymity - a facet of privacy

India's Digi Yatra Program is a biometric boarding system which can be used at Indian airports to create a seamless, paperless and contactless check-in and boarding experience for travellers. But the areas of concern include data privacy, other based authentication, information security. This can be addressed if the program is in line which the responsible AI (RAI) principles. Also the program is conceptualized as a purely voluntary mechanism and provides for alternative option to the passengers.

The key principles of Responsible AI (RAI) are:

- Safety and reliability
- Equality
- Inclusivity and non-discrimination
- Privacy and security
- Principle of transparency
- Principle of accountability
- Protection and reinforcement of positive human values

Conclusion

It is clear from our above discussion that by enacting legal framework for regulating AI technology will not only ensure its safe use but also foster innovation. Different countries use different approaches to best suit their needs. For example, USA and EU give more emphasis on human right protection by ensuring data privacy and avoiding algorithmic discrimination. This approach re-emphasises their position as the citadel of human rights. UK and India are more calibrative in their approach for regulating AI. Their approach is to strike the balance between industry needs and human rights protection. Even China is working on controlling the misuse of AI technology by fair and transparent legal framework. However, the threat of misuse of AI technology by the state itself can’t entirely be ruled out in socialist countries, autocratic countries and countries where democracy is not perfectly established. As the right to safe and sustainable use of AI technology is the 4th generation human right, it is the collective responsibility of all the governments, innovators and individuals

India is a vast country with geographical, social, and cultural diversity. This diversity ensures the resilience of our country to external and internal destabilizing forces. AI is a powerful technology which if not regulated properly, can pose a security threat to the nation and weaken the social

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fabric.

Author's Suggestion

Any law to be made for the purpose should best serve our inspiration, but at the same time, should also address the above-mentioned concerns.

- Algorithm based discrimination should be anticipated and avoided.
- The regulation should be to ensure safety and not to discourage innovation and research in the field.
- Proper laws are always better than lawlessness. The absence of law will result in arbitrary action by both administration and judiciary. The clearly defined policy will boost investors' confidence, and further research in the field will get adequate funding

In a highly competitive world of today's era, where technological superiority precedes economic superiority, this is to be kept in mind while framing the laws.

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