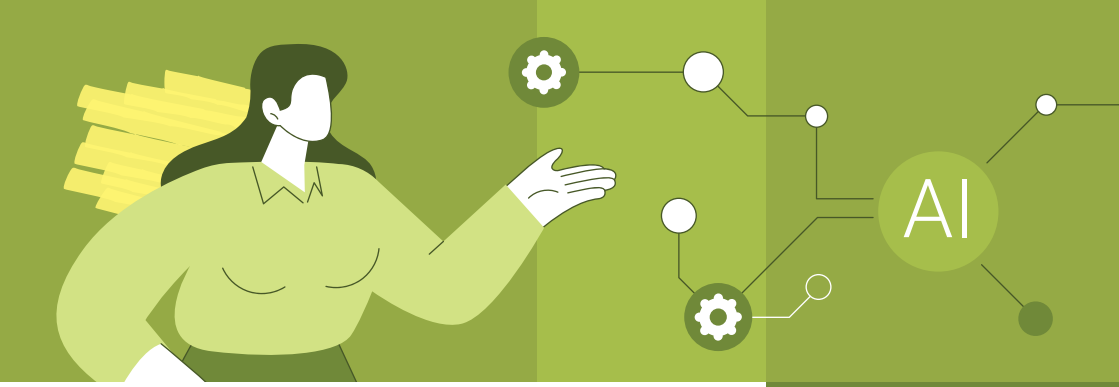
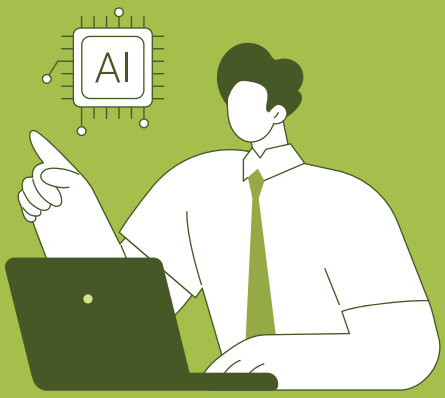
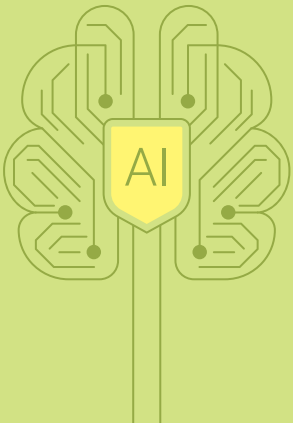


GOVERNANCE EXPLAINER

AI Governance

Frameworks





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AI Governance

Artificial Intelligence (AI) is reshaping people's daily lives in almost every sphere, providing significant benefits that come along with considerable risks. AI refers to technology that enables machines to perform tasks that typically require human capabilities like reasoning, planning, learning and creativity.[1] One popular example is ChatGPT which says AI boosts productivity by automating routine tasks, improves decision-making through data-driven insights and facilitates rapid innovations in key sectors (eg healthcare, education, finance and manufacturing).

However, the unregulated use of AI may disrupt labour markets, leading to job displacement, economic insecurity and widening inequality. There are also ethical concerns such as privacy violations and bias in algorithms that may harm vulnerable populations. Hence, there needs to be robust governance to ensure the responsible development and deployment of AI.

Why is Good AI Governance Important?

AI governance refers to government regulation and control of the design, development, deployment and use of AI. It encompasses the policies, frameworks and safeguards designed to ensure that AI

1 European Parliament, "What is artificial intelligence and how is it used?," September 4, 2020, https://www.europarl.europa.eu/topics/en/article/20200827STO85804/what-is-artificial-intelligence-and-how-is-it-used

systems and tools operate safely, ethically and responsibly. It operates at various levels, from organisational structures to national regulations and global regulatory frameworks. It involves the establishment of comprehensive systems that uphold transparency and accountability. Effective AI governance provides clear regulatory standards that cover all facets of AI. It also provides space for social dialogue, where various stakeholders may voice concerns and recommendations.[2] Good AI governance is important to safeguard the well-being of all communities, as it mitigates social harms, addresses inequity and social justice, and enhances transparency and accountability in the AI ecosystem.

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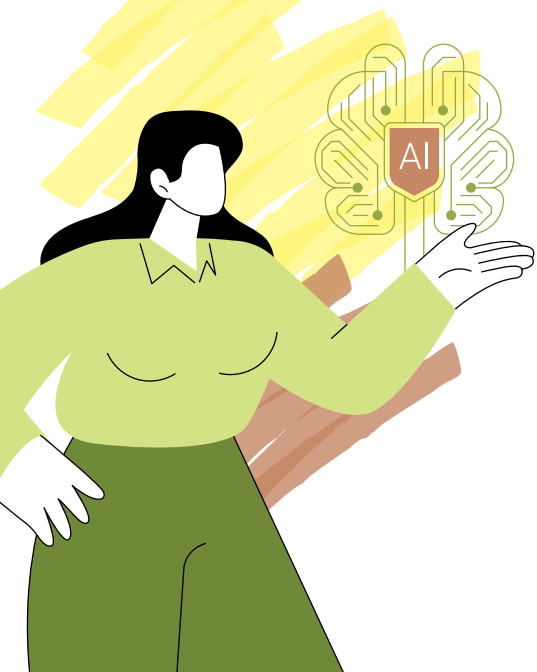

Mitigating Social Harms

One emerging concern is the exploitation of AI technologies by cybercriminals to produce increasingly realistic and convincing content to deceive users, as well as to develop internet browser plugins or smartphone apps for malicious purposes. The rise of generative AI, like ChatGPT, has also sparked anxieties about its potential use in creating and spreading fake news, with the goal of manipulating public opinions and threatening safety and security. Good AI governance is key to mitigating these new harms that can significantly undermine social stability and safety.[3]

Strong regulatory mechanisms are also integral in protecting data privacy. Determining legal liability when an AI system causes harm to users is complex, as it may be unclear whether responsibility lies with the developer or the AI. This

2 Tim Mucci and Cole Stryker, "What is AI Governance?," IBM, October 10, 2024 https://www.ibm.com/topics/ai-governance.

3 EGIS, "Artificial intelligence under legal and ethical scrutiny," October 19, 2023, https://www.egis-group.com/all-insights/artificial-intelligence-under-legal-and-ethical-scrutiny.

issue becomes even more challenging in cases where AI systems involve multiple stakeholders. It is therefore essential to implement strong safeguards against cybercrime, uphold data privacy and integrity, and articulate legal structures to manage potential harms to society.[4]

Addressing Inequity and Social Justice

Good AI governance is also important to protect the public from ethical risks that are inherent to AI implementation and development, while ensuring equity in AI use across communities. The operationalisation of AI technologies could raise ethical concerns, such as algorithms that lead to discriminatory hiring practices, facial recognition systems that target people of colour, or AI-powered credit scoring systems that unfairly disadvantage certain demographics in banking, e-commerce and insurance.[5] In the educational field, unequal access to AI-powered educational tools could limit learning opportunities for students from disadvantaged backgrounds, potentially worsening social inequality.[6]

Enhancing Transparency and Accountability

Strengthening transparency and accountability in how AI technology is used and regulated can help to establish the credibility of AI policies and promote the trustworthiness of AI technologies. Transparency allows people access to key information to help them understand how AI systems make decisions that affect their lives, empowering them to challenge unfair or biased outcomes.[8] On the other hand, accountability ensures that AI developers and deployers take responsibility for the impact of their systems and actively work to mitigate potential harms.[9] A strong regulatory framework must establish clear guidelines for who is responsible when AI systems fail or cause harm, and in making AI decision-making processes clear and understandable for everyone.[10]

4 Thierry Kellerhals, "What's the risk of not having a clean AI Governance in place?," KPMG, 2025, https://kpmg.com/ch/en/insights/artificial-intelligence/governance-risk.html

5 Capitol Technology University, "The Ethical Considerations of Artificial Intelligence," May 30, 2023, https://www.captechu.edu/blog/ethical-considerations-of-artificial-intelligence

6 Susan Gonzales, "AI literacy and the new Digital Divide - A Global Call for Action," UNESCO, August 6, 2024, https://www.unesco.org/en/articles/ai-literacy-and-new-digital-divide-global-call-action

7 IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems, "Ethically Aligned Design," 2019, https://sagroups.ieee.org/global-initiative/wp-content/uploads/sites/542/2023/01/ead1e.pdf

8 Sandra Watcher et al., "Why a right to explanation of automated decision-making does not exist in the general data protection regulation," *International Data Privacy Law* (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2903469

9 Claudio Novelli et al., "Accountability in artificial intelligence: what it is and how it works," *AI & Society 39* (2024), https://doi.org/10.1007/s00146-023-01635-y

10 Mucci and Stryker, "What is AI Governance?".

How can AI be Governed?

AI can be governed through three main regulatory approaches: market-driven, state-driven and rights-based approaches. Exemplified by the AI governance of the US, the market-driven approach is shaped by market forces with minimal state intervention. The state-driven approach, as typified by China, involves heavy government intervention in AI governance structures and systems. The rights-based approach observed by the European Union (EU) emphasises the importance of human rights, ensuring AI serves people while safeguarding fundamental human rights. These approaches exhibit different values and priorities with respect to AI governance: rapid innovation for the market-driven approach, social stability for the state-driven approach and human rights for the rights-based approach. Nonetheless, the differentiation is not absolute – all three governance models have a shared goal of harnessing the full potential of AI while mitigating the risks it poses.[11]

AI can be governed through three main regulatory approaches: market-driven, state-driven and rights-based approaches.

11 Jufang Wang et al., "Navigating Geopolitics in AI Governance," Oxford Global Society, April 2024, https://oxgs.org/wp-content/uploads/2024/04/OXGS-Report-_-Navigating-geopolitics-in-AI-Governance.pdf

Comparison of AI Governance Approaches		
Approach	**Benefits**	**Risks**
Market-Driven: influenced by economic liberalism that accentuates the primacy of free markets and advocates minimal state intervention.	Encourages companies to innovate and rapidly develop AI technologies to gain competitive edge. Minimal government intervention affords firms flexibility to quickly adapt to the fast-evolving AI landscape.[12]	Profits may be prioritised over ethical considerations, potentially resulting in harmful AI systems. The lack of stringent regulations may leave users vulnerable to exploitative practices.[13]
State-Driven: involves heavy government intervention in AI governance structures and systems, enabling the state to be the main actor in directing AI policies on the grounds of social stability.	Regulations can be enforced swiftly, and uncertainty is reduced. Clear frameworks can be established to address issues such as algorithmic bias[14] and promote responsible use and innovation.	Strict regulations may discourage companies from exploring innovative AI projects, while enforcing complex rules could be challenging. Excessive government intervention may hinder AI innovation.[15]
Rights-Based: emphasises the importance of human rights in decision-making processes, ensuring that the entitlements and dignity of individuals are respected and protected.	Prioritises individual privacy, non-discrimination and other fundamental human rights in AI policies. Builds public confidence by encouraging AI developers to maintain transparency in AI and its potential impacts.[17]	Implementing rights-based regulations can be challenging due to the constantly evolving nature of AI. Enforcing specific AI-related rights is complex. Excessive focus on rights may impede innovation.[18]

12 ASEAN, "The Quest Toward Developing an AI Governance in ASEAN," June 4, 2024, https://asean.org/wp-content/uploads/2024/07/ASEAN-for-Business-Bulletin-Special-Edition.pdf

13 Andreas Kremer et al., "As gen AI advances, regulators—and risk functions—rush to keep pace," McKinsey & Company, December 21, 2023, https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/as-gen-ai-advances-regulators-and-risk-functions-rush-to-keep-pace

14 Mucci and Stryker, "What is AI Governance?"

15 Rohit Nayak, "Singapore's forward-thinking approach to AI regulation," Diligent, August 20, 2024, https://www.diligent.com/resources/blog/Singapore-AI-regulation

16 Mucci and Stryker, "What is AI Governance?"

17 Kremer, "Gen AI advances."

18 Nayak, "AI regulation."

Market-Driven Approach

The market-driven approach operates on the belief that markets offer the strongest incentives for innovation, technological advancement and economic growth, and that government intervention hinders these developments. The US exemplifies this approach, with policies that view AI as a key opportunity for economic, geopolitical and military dominance. Instead of introducing substantial federal legislations for AI governance, it has observed minimal government intervention and largely relied on voluntary standards and self-regulation with targeted safeguards.[19]

For instance, compliance with the AI Risk Management Framework is voluntary. Released in January 2023, the framework strives to be pro-innovation and resource efficient. Organisations may follow the framework's recommended actions according to their own contexts, interests and needs.[20] Meanwhile, the Executive Order "Removing Barriers to American Leadership in Artificial Intelligence" released in January 2025 reiterates the US government's belief in the strength of free markets and entrepreneurial spirit, and its stance against onerous government control over the development of AI.[21]

The US's market-driven approach represents a light-touch regulatory framework – heavily influenced by economic liberalism which emphasises nominal government intervention and prioritises the free market.[22] Compared to the state-driven approach, the market-driven approach is more decentralised and industry-led. This model engenders a competitive ecosystem that rewards efficiency and technological leadership, setting the stage for breakthroughs in AI development.

On the flip side, the market-driven approach may potentially undermine social good because it lacks strong mechanisms to address societal and ethical concerns. In contrast with the state-driven and rights-based approaches, this approach has been criticised for neglecting ethical and social concerns, and contributing to the concentration of power within a small group of tech giants. In the absence of strong enforcement mechanisms, self-regulation often falls short. Numerous proposed bills aimed at mitigating AI risks have been introduced in

19 APCO, "Three Approaches to AI Governance," October 17, 2023, https://apcoworldwide.com/blog/three-approaches-to-ai-governance/.

20 US Department of Commerce-National Institute of Standards and Technology, "Artificial Intelligence Risk Management Framework (AI RMF 1.0)," January 2023, https://doi.org/10.6028/NIST.AI.100-1

21 The White House, "Executive Order: Removing Barriers to American Leadership in Artificial Intelligence," January 23, 2025, https://www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/

22 Wang, "Navigating Geopolitics."

the US Congress. These proposals reflect the growing disquiet among lawmakers and the public, especially about the neglect of consumer rights in the pursuit of financial gain.[23] Without strong legal safeguards, companies may prioritise profit and efficiency over consumer protection, risking data misuse, opaque decision-making and unfair treatment of marginalised groups.[24]

State-Driven Approach

The state-driven approach is rooted in a command-and-control model, where the state takes the lead in shaping economic policies, including the planning, development and regulation of technology and innovation. It is responsible for pursuing common prosperity, security and political stability of the nation.[25]

China's AI governance follows this approach – marked by strong state-led direction, coupled with active participation from the private sector. This approach endeavours to forge synergy between market-driven innovations and state oversight, ensuring that AI development aligns with state objectives.[26] China's regulatory approach to AI aligns with its overarching state-led development model. It forms part of the state's strategy to fortify the Chinese Communist Party's control over tech companies, specifically in the field of generative AI.

23 Wang, "Navigating Geopolitics."

24 Joel Paul, "Privacy and data security concerns in AI," Research Gate, November 2024, https://www.researchgate.net/publication/385781993_Privacy_and_data_security_concerns_in_AI

25 APCO, "Three Approaches."

26 Wang, "Navigating Geopolitics."

The state-driven approach raises concerns about government overreach and potential restrictions on individual freedoms.

China has implemented various rules and regulations that target AI companies to ensure that AI technologies do not undermine the Party's political control and compromise social stability. For example, China's generative AI regulation mandates that the deployment and use of generative AI services should not "generate content that may incite subverting state power and socialist systems…and undermine national unity and social stability". China has also enforced regulations on deepfake technologies and recommendation algorithms to control the flow of information in the country.[27]

Compared to the market-driven model, China's approach grants the government greater control over AI regulation and deployment, reducing uncertainties that arise from a lack of oversight. This helps address issues of AI safety, misinformation and unethical use more quickly and effectively. China can swiftly implement regulations, ensuring AI development aligns with state priorities while mitigating risks from unchecked technological advancements.

On the other hand, the state-driven approach raises concerns about government overreach and potential restrictions on individual freedoms, which the rights-driven approach explicitly seeks to protect. Rigid state regulations may impede innovation which does not bode well for economic growth. Also, enforcing

27 APCO, "Three Approaches"; Wang, "Navigating Geopolitics."

complex rules can be challenging due to bureaucratic inefficiencies. These factors could make it difficult for states to sustain a balance between control and innovation, while keeping up with global technological competition. Overregulation may dent private sector incentives and limit tech companies' adaptability to emerging trends, potentially slowing economic and technological progress.

Right-Based Approach

The rights-based approach centres on protecting the fundamental rights of users and mitigating the risks that AI technologies may pose to those rights. This approach asserts that innovation and technological progress should not come at the cost of people's fundamental rights. Therefore, governments intervene to safeguard individual rights, ensure equitable distribution of economic benefits, and foster peace and prosperity.[28]

The AI Act, in force since August 2024, embodies the EU's rights-based approach to AI governance. Known as the world's first comprehensive AI law, it aims to foster responsible AI development and deployment across all EU countries through a regulatory framework based on human rights and fundamental values. It outlines the requirements for the specific uses of AI, and specifies the obligations of developers and deployers. It addresses potential risks to people's safety, health and fundamental rights by analysing and classifying AI systems according to the hazards they pose to users. AI applications that pose clear threat to people's rights are prohibited (eg social scoring AI that classifies people based on their behaviour, personal characteristics and socio-economic status).[29,30] High-risk AI systems like AI-based medical software must comply with strict requirements, including human oversight, clear user information and risk-mitigation systems. Companies behind AI systems categorised as having minimal risk face no obligation under the AI Act.

This governance model aims to ensure that AI systems adhere to strict transparency and fairness standards before deployment. It prioritises individual privacy, non-discrimination and other fundamental liberties. It contributes to building public confidence by requiring AI developers to

28 APCO, "Three Approaches."

29 European Parliament, "EU AI Act: first regulation on artificial intelligence," February 19, 2025, https://www.europarl.europa.eu/topics/en/article/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence#ai-regulation-in-europe-the-first-comprehensive-framework-4

30 European Commission, "AI Act enters into force," August 1, 2024, https://commission.europa.eu/news/ai-act-enters-force-2024-08-01_en

follow strict ethical and legal standards. Unlike the state-driven model, the EU emphasises checks and balances through independent regulatory bodies rather than centralised government control. However, an inherent challenge is the difficulty in implementing clear and stable rights-based regulations due to the opacity of some AI models and the rapidly evolving nature of AI. Lastly, this cautious stance on AI regulation may slow down innovation and hinder the competitiveness of AI firms compared to the market-driven approach.

These three approaches reflect different priorities that shape AI governance in different countries. The market-driven approach is founded on economic liberalism, the state-driven approach is built on government authority and control, while the rights-based approach is undergirded by human rights. While each approach offers benefits and risks, a balanced strategy that integrates the key elements in all three approaches is widely seen as the best way to foster AI innovation while managing risks and safeguarding user rights.[31]

The market-driven approach is founded on economic liberalism, the state-driven approach is built on government authority and control, while the rights-based approach is undergirded by human rights.

31 Kellerhals, "What's the risk of not having a clean AI Governance in place?".

How can AI Governance be Improved?

There are at least three ways to improve AI governance: increase public involvement in AI governance; establish supranational regulatory frameworks; and build global consensus and solidarity in AI governance through dialogue.

Increase Public Involvement in AI Governance

Involving the public in AI governance helps to align AI development with societal values. Democratic participation in AI governance is essential to ensure that decisions about AI use are inclusive and congruent with the priorities of diverse communities, which in turn allows AI to serve society more effectively and equitably.[32] Research has shown that opaque AI governance systems can create public scepticism and resistance, even when they have the potential to offer significant benefits.[33] Increasing public consultation fosters transparency, builds confidence in the technology and incorporates multiple voices in the creation of guidelines for responsible AI use.[34]

One way to increase participation is through public forums that encourage input from a diverse range of stakeholders including citizens, experts, industry representatives and civil society organisations.[35] Governments could also regularly publish public reports on AI policies[36] which help citizens better understand how AI governance decisions are made and how ethical considerations are being addressed. Such initiatives lay a solid foundation for the ongoing formulation of AI governance policies by garnering public support and deepening faith in the policy-making process.

32 Paul Nemitz, "Constitutional democracy and technology in the age of artificial intelligence," National Library of Medicine, October, 2018 https://pubmed.ncbi.nlm.nih.gov/30323003/.

33 Ben Chester Cheong, "Transparency and accountability in AI systems: safeguarding wellbeing in the age of algorithmic decision-making," *Frontiers in Human Dynamics* (2024), https://doi.org/10.3389/fhumd.2024.1421273

34 Peter Jia Wei Cui, "How Public Participation Can Improve AI Governance: Taiwan's Initiatives," Friedrich Naumann Foundation, October 22, 2024, https://www.freiheit.org/taiwan/how-public-participation-can-improve-ai-governance-vtaiwans-initiatives

35 Gayathri Haridas and Abhineet Kaul, "Strategies to craft effective AI governance: Essential building blocks for nations," Access Partnership, October 14, 2024, https://accesspartnership.com/effective-ai-governance-building-blocks/.

36 Haridas and Kaul, "effective AI governance."

Establish Supranational Regulatory Frameworks

AI governance can be improved when countries work together to create common guidelines, legal frameworks and regulatory sandboxes to explore innovative approaches to AI governance. Supranational frameworks can also ensure the representation of various stakeholders in the regulatory process, including states, organisations, private companies and civil society.[37]

Supranational regulatory frameworks strengthen AI governance by facilitating common regulations among countries, and prevents certain countries or organisations from exploiting less stringent regulations.[38] For instance, the ASEAN Guide on AI Governance and Ethics promotes alignment of regulations within ASEAN and enhances the interoperability of AI frameworks across jurisdictions. It recommends several national and regional initiatives that governments in the region can adopt to responsibly design, develop and deploy AI systems.[39] Meanwhile, the European AI Office, which serves as the hub of AI expertise in the EU, plays a key role in implementing the AI Act across member states, promoting the development of trustworthy AI and forging international cooperation.[40]

Build Global Consensus and Solidarity in AI Governance through Dialogue

Establishing consensus on the principles of good AI governance across countries and cultures could help develop more robust and consistent policies across different territories. Platforms such as international and cross-cultural dialogues, forums and conferences are effective ways to encourage collaboration, open exchange and mutual learning.[41]

One example is UNESCO's Global Forum on the Ethics of Artificial Intelligence held in 2024 which launched discussions among public and private stakeholders, academics and civil society to address AI's governance

37 Fillippo Pesapane et al., "Legal and Regulatory Framework for AI Solutions in Healthcare in EU, US, China, and Russia: New Scenarios after a Pandemic," *Radiation* 1 (2021), https://doi.org/10.3390/radiation1040022

38 Mucci and Stryker, "What is AI Governance?".

39 ASEAN, "ASEAN Guide on AI Governance and Ethics," February 2, 2024, https://asean.org/wp-content/uploads/2024/02/ASEAN-Guide-on-AI-Governance-and-Ethics_beautified_201223_v2.pdf

40 European Commission, "European AI Office," February 18, 2025, https://digital-strategy.ec.europa.eu/en/policies/ai-office#ecl-inpage-genai4eu

41 Seán S. ÓhÉigeartaigh et al., "Overcoming Barriers to Cross-cultural Cooperation in AI Ethics and Governance," *Philosophy & Technology* (2020), https://doi.org/10.1007/s13347-020-00402-x

challenges on a global level.[42] Another is the Global Governance of AI Roundtable which serves as an annual platform for the international community to collaboratively examine AI technologies, cultural systems, their socio-economic impact and global AI governance policies.[43]

The volume and variety of AI regulations and standards are set to grow. In an increasingly interconnected world, good AI governance will require a combination of different approaches, as well as the inclusion of diverse opinions and perspectives. Robust national governance and global solidarity remain key.

Platforms such as international and cross-cultural dialogues, forums and conferences are effective ways to encourage collaboration, open exchange and mutual learning.

42 Laia Güell Paule, "UNESCO launches Global AI Ethics and Governance Observatory at the 2024 Global Forum on the Ethics of Artificial Intelligence," European Union, February 6, 2024 https://digital-skills-jobs.europa.eu/en/latest/news/unesco-launches-global-ai-ethics-and-governance-observatory-2024-global-forum-ethics.

43 The Future Society, "Global Governance of AI Forum," May 10, 2020, thefuturesociety.org/global-governance-of-ai-forum-ggaf/

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