



Artificial Intelligence in Global Governance: Navigating the Future

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Abstract

The rapid advancement of artificial intelligence (AI) is transforming the world at an unprecedented pace, with far-reaching implications for global governance. The global nature of AI requires international cooperation and governance ensuring responsible development and deployment of AI. The complexities of AI influence on societal structures, economic systems, and individual rights underscores the need for effective governance frameworks that prioritize human well-being and dignity, mitigating the associated risks, such as bias, job displacement, and cyber security threats along with promoting the benefits of AI, including improved efficiency, enhanced decision-making and innovation.

The study aims to explore:

1. Need for International AI and data governance;
2. Key challenges in establishing effective global governance for AI
3. The role of geopolitics in shaping AI governance
4. How international cooperation can facilitate the development of AI regulatory frameworks.
5. Key issues in Global AI governance
6. Navigating the future of AI governance

Keywords: *Artificial Intelligence; Global Governance; International Cooperation; Regulatory Framework; Human Well-being.*

Introduction

Artificial intelligence (AI) is a groundbreaking technological development of the 21st century, holding tremendous promise to transform nearly every aspect of human life and drive societal progress (Xu et al., 2021). In 2023, Ian Bremmer and Mustafa Suleyman, co-founder of DeepMind, described our current era as a "technopolar" world, where influence is increasingly determined not just by control of land, resources, or capital, but by mastery over computing power, algorithms, and data (Bremmer & Suleyman, 2023). As AI continues to advance rapidly, its capacity to improve efficiency, transparency, and data-driven decision-making in tackling global issues such as climate change, security, public health, and economic stability becomes more apparent.



A notable emerging concept in this context is "Data Center Diplomacy," which highlights the strategic role of data centers as key infrastructure in the global AI ecosystem. Since data fuels AI systems, countries that control significant data centers can wield considerable geopolitical influence, similar to the power once held by oil-rich nations in the 20th century. Countries engaged in "Data Center Diplomacy" are not only expanding their domestic infrastructure but also forming international partnerships to broaden their influence. These alliances can foster technological sharing, security agreements, and economic collaborations, creating interconnected dependencies or, alternatively, leading to geopolitical tensions, especially when access to vital data resources is restricted or disputes over data center ownership arise. Consequently, "Data Center Diplomacy" is poised to become a vital element shaping future international relations. To harness AI's benefits while mitigating its risks, establishing strong regulatory and governance frameworks is essential (de Almeida et al., 2021).

Methodology

This study employs a comprehensive, multi-method approach to analyze AI's evolving role in global governance and identify pathways for navigating its future effectively. Combining qualitative and quantitative techniques, the research integrates literature review, policy analysis, and qualitative data examination to provide a nuanced understanding of the subject.

The Need for International AI and Data Governance

Managing emerging technologies like AI is likely to be one of the key challenges for international relations in the 21st century (Dafoe, 2018). AI is projected to contribute approximately \$15.7 trillion to the global economy by 2030, transforming sectors such as healthcare, finance, and defense (<https://www.ipag.org/policy/international-ai-governanceframework-the-importanceof-g7-g20-synergy/>). However, its rapid adoption raises significant ethical, security, and socio-economic concerns, such as algorithmic bias, misinformation, and cyber threats that necessitate a cohesive international governance framework.

AI governance refers to the mechanisms and processes that influence and regulate AI development and deployment (Butcher & Beridze, 2019). The rapid pace of AI innovation has prompted various stakeholders to explore how to leverage this technology responsibly, leading to diverse actors involved at different levels. These include:

Private Sector: Major multinational companies like Google, OpenAI, Microsoft, IBM, and Meta are heavily involved in AI research, development, and setting industry standards, ethics guidelines, and governance strategies. (Butcher & Beridze, 2019)

Public Sector: Governments and their agencies develop national AI strategies and policies, and participate in international agreements on AI use. There are also intergovernmental-level partnerships on AI facilitated by

bodies such as the EU, G20, Organisation for Economic Co-operation and Development (OECD), and the United Nations (UN) (Naidoo, 2021)

Non-Governmental Organizations: Professional organizations (e.g., The Institute of Electrical and Electronics Engineers [IEEE], The Royal Society, think tanks, advocacy groups, civil societies, and research institutes actively contribute by organizing workshops, establishing standards, raising awareness, and making policy recommendations. (Schiff et al., 2020; Schmitt, 2022).

Various proposals have been made for global AI governance mechanisms beyond national borders. Some of these include a Group of 20 (G20) coordinating committee for the governance of artificial intelligence (CCGAI) (Jelinek et al., 2021); a new informal intergovernmental organization called the International Artificial Intelligence Organization (IAIO) (Erdélyi & Goldsmith, 2018) and also exploring models inspired by existing institutions like the **Intergovernmental Panel on Climate Change (IPCC)** or **International Atomic Energy Agency (IAEA)** for managing global risks (Jelinek et al., 2021; Erdélyi & Goldsmith, 2018; Maas & Villalobos, 2023).

As generative AI technologies become integrated into virtually every facet of daily life, it is increasingly urgent for organizations to develop trustworthy AI systems governed by responsible frameworks. Poorly designed or hastily implemented AI can cause harm, (Davies, M. and Birtwistle, M. 2023), such as job losses, widening social inequalities, or the amplification of harmful stereotypes. Risks also include misuse or catastrophic failures. Effective AI governance involves creating policies that promote responsible innovation, mitigate risks, and ensure equitable distribution of benefits. Key considerations include data privacy, transparency, accountability, and sustainable growth, which depend on reliable digital infrastructure, adequate power supply, and a skilled talent pool.

Global AI Governance Landscape

Global AI governance involves the development of policies, standards, and frameworks to ensure that artificial intelligence is developed and used responsibly, ethically, and for the benefit of humanity. The US and China are recognized as the leaders in AI developments globally (Bard & Armstrong, 2019). However, the EU has also established itself as a significant third player in the field. (Feijóo et al., 2020). Thus the international landscape is largely shaped by three leading players: the United States, China, and the European Union, each pursuing different goals and approaches that sometimes conflict, posing challenges to establishing a unified global governance system.

The “multi-layer model,” introduced by Jovan Kurbalija, offers a helpful way to understand AI governance by dividing it into different levels: hardware (like computing power and chips), data (the information used to train AI), algorithms (the AI's capabilities), and applications (how end-users interact with AI). Each layer involves specific issues, such as export controls at the hardware level, data privacy at the data level, transparency at the algorithm level, and consumer protection at the application level. Various actors participate in governance across these layers, including the private sector (microchip companies, major AI



companies like OpenAI, Microsoft, and Google), governments, international organizations, and civil society and consumer organizations.

Several global initiatives aim to promote responsible AI development, emphasizing transparency, accountability, fairness, and human rights. Organizations such as the OECD, UNESCO, and G20 have established principles and guidelines, while the EU has proposed regulations like the AI Act to oversee high-risk AI systems and promote ethical practices. Leading AI research labs, including OpenAI, Google DeepMind and Microsoft Research, advocate for coordinated global efforts to enhance safety. Events like the UK's AI Safety Summit and the AI Seoul Summit have fostered international dialogue and led to the creation of national AI safety institutes in several countries, including UK, the US, Japan and Canada.

Drawing on Columbia Law School Professor Anu Bradford's concept of "three digital empires," the approaches to AI governance in the EU, the US, and China are mainly rights-driven, market-driven, and state-driven, respectively. These reflect differing values and priorities. The EU emphasizes protecting human rights and fundamental values through regulations like the Digital Services Act (DSA), enforced in 2022, which mandates transparency and restricts targeted advertising based on sensitive personal data such as ethnicity, political views or sexual orientation (European Commission 2024). The EU's "human-centric" approach aims to ensure AI benefits society while safeguarding dignity, equality, and justice, exemplified by initiatives like the Digital Europe Programme (2021-2027) that aims to strengthen the EU's technological leadership. (European Commission 2021)

According to Stanford University's AI Index Report 2023 report, the US and China are the world's top two AI powers and their ambitions in AI leadership also manifest in their efforts to influence global AI governance frameworks. (Cheng, J., & Zeng, J. 2022). The US participates actively in multilateral efforts through organizations like the OECD, G7, and General Purpose AI systems (GPAI), and the US-EU Trade and Technology Council, while China launched its Global AI Governance Initiative in October, 2023 during the third Belt and Road (BRI) International Summit. (Ministry of Foreign Affairs of PRC, 2023). Despite their differences, there are shared human-centric principles across regions, emphasizing AI's role in promoting human wellbeing, rights, and sustainable development.

China's AI strategy "putting people first or people-centered" is a slogan proliferated in the political sphere since 2004, meaning development should serve the interests of the people. (Leung, T. T. F., & Tam, C. H. L, 2015). Apart from human-centered values, inclusive growth, accountability, transparency, robustness, security, and safety are common AI principles across these powers, as outlined by the OECD. However, differences exist. Western democracies prioritize individual rights and checks on power, whereas China often emphasizes social stability and collective rights alongside individual rights. International collaborations, like the G7 AI Principles and the EU-US Trade and Technology Council, reflect shared commitments to human-centric AI, though differing values influence how these principles are interpreted and implemented globally.

The role of geopolitics in AI governance

The influence of geopolitics on AI governance is profound, as AI is poised to become a key element of both economic and military strength worldwide (Maslej, N., et al., April 2023). Countries' strategic interests and power ambitions drive their approaches to developing and regulating AI, leading to increased export restrictions and retaliatory measures that could fragment global AI governance efforts. This geopolitical competition also risks creating a significant gap between nations that have advanced AI capabilities and those that do not, reinforcing existing inequalities (Jufang Wang, et al., 2024).

International frameworks, such as the OECD's AI principles and UNESCO's recommendations, centering on the protection of human rights through principles of "Do No Harm," safety and security, fairness and non-discrimination, privacy, sustainability, transparency, human oversight and accountability, addresses broad societal implications of AI development. Additionally, three more technical standards that translate high-level commitments into actionable practices: the U.S. National Institute of Standards and Technology (NIST) AI management framework, a voluntary set of guidelines addressed to individuals and organizations who want to act responsibly in developing products and services containing AI ; the ISO/IEC 42001 International Standard for AI Governance, an international standard promulgated in December 2023 by the International Organization for Standardization (ISO) and the International Electro Technical Commission focussing on the MANAGEMENT STRUCTURE of AI systems ; IEEE 7000-2021 standard for ethical system design, published in 2021 by the Institute of Electrical and Electronics Engineers striving to ensure ethical principles, such as transparency, sustainability, privacy, fairness, and accountability and translate these high-level principles into practical guidelines for responsible AI development and ethical system design.

While the United States leads in AI innovation, China's rapid efforts to catch up are viewed with suspicion and concern in Washington, especially regarding access to advanced technologies like semiconductors. Beyond the US and China, middle powers such as the UK, Canada, France, Singapore, India, South Korea, and Israel are emerging as influential players with their own geopolitical goals in AI development and governance (Jufang Wang, et al., 2024).

Apart from US-China rivalry, another major geopolitical issue is the concentration of AI power within a few countries and private corporations. The high technological and financial barriers to developing foundational AI models, such as those used in ChatGPT mean that only a small number of companies, primarily based in the US and China, can afford the necessary resources. This concentration limits new entrants and deepens the divide between nations and organizations that can develop and regulate AI, worsening global inequalities in AI capabilities and influence.

Key issues in Global AI governance

Experts like Dr. Stephen Pattison suggest categorizing AI risks into levels, from existential threats posed by military systems like lethal autonomous weapons to lower-risk civilian applications. He argues that risks involving existential threats require a centralized international framework, while civilian AI issues might be managed at the national or regional level, respecting diverse cultural norms. There are some signs of international cooperation, such as the Bletchley Declaration signed during the first AI Safety Summit, which



included China and emphasized the importance of understanding and addressing the risks of advanced AI models. In November 2023, leaders like U.S. President Joe Biden and Chinese President Xi Jinping acknowledged the importance of managing AI risks through bilateral talks.

A particularly urgent issue in global AI governance is the regulation of lethal autonomous weapons systems (LAWS). Given their military potential, there is concern that geopolitical rivalry could lead to an increase in autonomous weapons, which some experts consider the third major revolution in warfare after gunpowder and nuclear arms. The market for such weapons is projected to reach around \$26.36 billion by 2027 (Jufang Wang, et al., 2024).

The United Nations' THE INTERIM REPORT: GOVERNING AI FOR HUMANITY has proposed establishing a global governance framework for AI, leveraging its legitimacy to oversee the development and use of AI technologies for humanity's benefit. A Brookings commentary, published in February 2024, argued that the UN has a crucial role to play in global AI governance. Many countries of the Global South and China stressed that "an international AI governance institution should be set up under the UN framework and all countries should be able to participate on equal terms. Alternative proposals include mechanisms similar to the International Atomic Energy Agency (IAEA), which oversee nuclear technology, to manage AI's risks and ensure responsible development under international oversight (Jufang Wang, et al., 2024).

Implementing global AI governance involves choosing between two main approaches: hard regulation, which is mandatory and legally binding, and soft regulation, which is voluntary and based on guidelines and standards. Hard regulations may face resistance from countries, especially those with limited AI capabilities, since they might see such rules as imposing restrictions. On the other hand, soft governance includes voluntary codes of conduct, international guidelines, and standards developed by organizations like IEEE, ISO, IEC, and WHO. For example, the ISO/IEC 42001 standard on AI management systems (AIMS) exemplifies efforts to establish common frameworks. Despite competition among these organizations, there is hope for international cooperation in creating cohesive AI standards.

AI-driven cyber threats, such as automated hacking, misinformation campaigns, and cyber espionage pose significant risks to national security and global stability. The G7, with its advanced cyber security infrastructure and expertise, is well-positioned to lead international efforts to address these threats. Additionally, initiatives like the U.S.-led Political Declaration on Responsible Military Use of AI and the Responsible AI in the Military Domain (REAIM) initiative, led by multiple countries including the Netherlands, Korea, and Spain, emphasize the importance of international collaboration to keep military AI systems under human control. These efforts aim to develop ethical guidelines and legal frameworks for military applications of AI, especially autonomous weapons and surveillance. Comprehensive collaboration with G20 nations is crucial to avoiding an AI arms race and ensuring the protection of global security and human rights.

[\(https://www.atlanticcouncil.org/blogs/geotech-cues/the-sovereignty-trap/\)](https://www.atlanticcouncil.org/blogs/geotech-cues/the-sovereignty-trap/)



As AI systems become more powerful and integrated into critical infrastructure, concerns about data security, privacy, sovereignty and geopolitical power have grown. The concept of "Sovereign AI" has emerged, emphasizing a nation's desire to control AI development, deployment, and regulation within its borders. On February 28, 2024, NVIDIA, a leading chip designer and one of the world's most valuable companies, published a blog post titled "What is Sovereign AI?" on their website. The post defined the term as a country's ability to produce AI using its own "infrastructure, data, workforce and business networks." While this enhances national autonomy, it also risks fragmenting the global AI landscape, leading to divergent regulations, data laws, and standards. Such fragmentation could hinder international cooperation, trade, and innovation. Balancing national sovereignty with global collaboration is vital to ensure AI benefits all humanity. (<https://rdg.digital/sovereign-ai-a-path-to-national-security-and-technological-autonomy-in-the-age-of-artificial-intelligence/>)

Navigating the Future

Looking ahead, the future of AI governance depends on nations working together to tackle ethical, security, and economic challenges while respecting sovereignty and fostering innovation. The G7 can lead in establishing regulations, but broader consensus, including G20 countries like China and Russia, who are rapidly advancing military AI, is crucial. Diplomatic negotiations and confidence-building measures are necessary to keep AI under human control in military contexts. Collaboration between G7 and G20 is also needed to ethically regulate AI surveillance and prevent civil liberties violations.

Global inequalities in AI capabilities are a concern, as R&D is concentrated in a few advanced nations. To address this, efforts should promote democratization of AI through international research collaborations, data-sharing, and initiatives like a Global AI Research and Education Fund. This fund could support AI development in emerging economies, fund ethics training, and facilitate talent exchanges. Structured programs for technology transfer between developed and developing nations can help bridge the gap.

An effective international AI governance framework should be based on strategic collaboration among major players like the U.S., a G7 leader in AI; China, a G20 powerhouse; and South Korea, another key G20 player, leveraging their respective strengths. The U.S. leads with industry giants like OpenAI and Google, while China has made significant breakthroughs with companies like DeepSeek. South Korea is advancing in AI infrastructure and energy-efficient data centers. Balancing regulatory approaches among these nations is vital to creating a coherent global framework.

Strengthening the Global Partnership on Artificial Intelligence (GPAI) is also key. While GPAI already unites governments, industry, and researchers, its influence is limited, especially among underrepresented developing countries. Expanding its participation to include more regions, such as Africa, Latin America, and Southeast Asia, and working with financial institutions like the World Bank can help align AI development with global challenges. Enhancing GPAI's authority and inclusivity will support a coordinated, responsible international AI governance strategy that encourages innovation while respecting ethical standards.



Conclusion

The integration of artificial intelligence into global governance presents both transformative opportunities and profound challenges. AI has the potential to enhance decision-making processes, foster greater efficiency, and facilitate more inclusive and data-driven policies on a global scale. However, realizing these benefits requires careful navigation of ethical considerations, issues of sovereignty, and the risks associated with bias and misuse. Effective international cooperation, robust regulatory frameworks, and ongoing ethical oversight are essential to harness AI's capabilities responsibly. As we move forward, a balanced approach that promotes innovation while safeguarding fundamental values will be crucial in shaping a future where artificial intelligence serves as a constructive force for global good.

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