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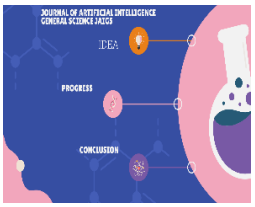

Navigating Cyber Diplomacy in the Governance of Emerging AI Technologies: Lessons from Transatlantic Cooperation

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ABSTRACT

The rise of Artificial Intelligence (AI) technology presents vast transformative possibilities across various sectors, encompassing economic, industrial, social, political, intelligence, and military realms. Consequently, governing the development and deployment of AI has garnered significant attention not only from policymakers and decision-makers but also from the general public. Given AI's potential to shape state power and its dual strategic applications, the governance of AI has become an integral part of global discussions, falling under the purview of cyber diplomacy. This article delineates key issues surrounding AI governance, discusses the evolving role of the EU as a normative force in this arena, and underscores the importance of transatlantic collaboration amid broader global technological competitions.

Introduction:

Artificial Intelligence (AI) stands poised to become one of the most significant technological advancements since the advent of nuclear fission. The final report of the National Security Commission on Artificial Intelligence in the US portrays AI as an incredibly versatile innovation, likening its impact to that of electricity, which Thomas Edison described as "a field of fields" holding the potential to reshape the world's dynamics. The report acknowledges Edison's sentiment that his knowledge of electricity was minimal compared to its vast possibilities (Schmidt, 2021).

Setting aside debates on the achievability of Artificial General Intelligence, the trajectory of existing and anticipated AI developments suggests a proliferation of applications driving market growth, estimated at $76 billion between 2020 and 2025 (TechNavio, 2021). These applications promise to disrupt established industries, particularly within the Industry 4.0 paradigm of enhanced automation, while also enabling novel capabilities like extensive surveillance systems, data analysis, and automated decision-making processes. The economic implications of AI are significant, but its dual-use nature and its role in enhancing state power, particularly in military and intelligence contexts, position dominance in AI as a crucial indicator of future superpower status. Major global players are heavily investing in AI, with the US allocating $4 billion for the 2022-2023 fiscal years, Russia planning to invest $3.9 billion between 2020 and 2024 (Markotkin and Chernenko, 2020), and China having already expended $1.6-5.4 billion on AI in 2018 alone (Acharya and Arnold, 2019).

The efforts of individual nation-states are complemented by cooperative endeavors in both AI development and the regulation of its deployment and usage. Numerous challenges accompany the emergence of such disruptive technology, ranging from supply chain issues to privacy concerns, as well as the implications for state power resulting from effective AI implementation and control. Consequently, beyond the economic allure of AI, the technology increasingly becomes a focal point in the geopolitical competition between the West and revisionist, competing, and systemically rivalrous nations. Analogous to other domains such as cybersecurity, blockchain, and quantum computing, this competition fosters both intra-bloc cooperation on governance and attempts, albeit often futile, to establish a global regulatory framework for AI amidst growing public apprehensions about the existential risks associated with widespread deployment of advanced AI.

This article examines the development of AI through the lens of governance and cyber diplomacy, focusing not on the technological advancements themselves but on interstate collaboration aimed at crafting a usage framework aligned with shared values, desired outcomes, and collective priorities such as national security. Special attention is paid to Western cooperation, particularly transatlantic coordination, which is expected to play a pivotal role in shaping the future landscape of AI governance.

The Key Concerns

While the achievement of Artificial General Intelligence remains distant and uncertain, AI is swiftly integrating into decision-making and decision-support systems, raising significant ethical and governance considerations.

Every innovative technology brings forth ethical dilemmas and prompts discussions about security governance and other consequential impacts. Given AI's wide-ranging applications across sectors such as healthcare, education, transportation, e-commerce, cybersecurity, and defense, conversations about regulations, ethics, safety, and human oversight are inevitable (West and Allen, 2021). In an era of globalization, these dialogues are likely to evolve into arenas of inter-state collaboration and competition, blurring the lines between cooperation and rivalry.

Failure to adequately address AI-related issues could lead to the unchecked deployment of AI technology driven by economic and security motives or mere convenience. This could result in heightened risks, vulnerabilities, and threats, leading to incidents impacting lives, property, and national prestige. Additionally, it may fuel neo-Luddite political and social movements and ultimately undermine the legitimacy of governance systems in an increasingly interconnected world.

Table 1 outlines the primary concerns surrounding AI ethics and governance, drawing from the authors' expertise and experience.

	Issue	**Explanation**
AI Ethics and Governance issues	Manipulation	Using AI to exploit and manipulate people
	Combatant	AI as defender but especially attacker of cyber systems
	Injustice	Using AI in predictive and scoring instruments which can lead to systematic discrimination and algorithmic injustice
	Enemy identification	AI as target selector in a weapons system in a military context
	Decision to fire	AI as a decision-maker and trigger pusher in autonomous weapons systems
	Legibility for authorities	AI transparency and governability for the legitimate and competent authorities
	Political repression	Use of AI by authoritarian governments for illegitimate goals - ex: mass surveillance, detection of dissidents
	Intelligence	The use of AI for intelligence and counter-intelligence work

Cyber Diplomacy serves as a strategic mechanism for facilitating cooperation and collective efforts among sovereign entities, even when their interests may diverge to some extent. Through diplomatic channels, stakeholders engage in structured dialogues focused on articulating principles, values, agendas, and actionable strategies. This process fosters the convergence of perspectives and the cultivation of trust, which are essential for establishing enforceable governance frameworks and norms concerning AI.

The European Union's Influence in Ai Governance

The European Union (EU) has placed a high priority on advancing AI capabilities, reflecting the interests of its member states, which include some of the world's wealthiest and most innovative countries. Recent European endeavors in supporting AI research and related fields have been highlighted by Georgescu et al (2021). Governance holds significant importance for the EU, not only in practical terms concerning AI development and implementation, but also due to the potential of what is known as the "Brussels Effect." This phenomenon refers to the EU's ability to shape governance across various domains through market mechanisms, multilateralism, norm-setting, codes of conduct, and standards (Brattberg et al, 2020). Regarded as a "normative superpower," the EU aspires to exert similar influence in AI governance. AI is integral to broader EU objectives such as strategic autonomy, digital sovereignty, and data sovereignty, which collectively define the EU's ambitions regarding digital power and its influence on global dynamics. The EU's ability to replicate the Brussels Effect in AI hinges on its ability to maintain its position at the

technological forefront of AI and emerge as a global leader in AI deployment amid the ongoing technological competition between the US and China.

European Technological Sovereignty

EU technological sovereignty is grounded in European values and culture, emphasizing human autonomy, data sovereignty, and ethical AI use. Several non-AI documents within the European vision, such as "Europe Fit for the Digital Age," the "European Digital Strategy," the "European Data Strategy," the "Digital Services Act," and the "Digital Markets Act," influence the ethics of AI use.

Regulation and Ethical Frameworks

The EU's regulation of AI ethics primarily revolves around COM/2021/206, the "Regulation of the European Parliament and of the Council laying down harmonized rules on Artificial Intelligence (Artificial Intelligence Act)," and the Coordinated Plan on Artificial Intelligence 2021. These documents emphasize the EU's aim to become a global leader in safety, trustworthiness, and ethical AI. The EU emphasizes the importance of common action at the Union level to protect EU digital sovereignty and shape global rules and standards through regulation. Alongside mandatory legislation, the EU has developed general principles for AI ethics, voluntary codes, recommendations, and other non-coercive governance measures, often in collaboration with entities such as the US.

Trustworthy Ai Framework

The EU's approach to ethical AI centers around "Trustworthy AI," as outlined by the European Commission. It categorizes AI into four risk levels, each requiring specific governance measures. Figure 1 provides a summary of these approaches.

Transatlantic Collaboration on Ai

The emergence of transatlantic collaboration on AI and other emerging technologies was anticipated by Gehrke (2020), who emphasized the significance of addressing the rules, norms, and standards governing these technologies amidst the ongoing U.S.-China technological competition. As competition intensifies, a mere focus on economic cooperation and regulation becomes inadequate, necessitating a response to the evolving terms of competition set by China and Russia.

Under the Trump Administration, minimal regulations on AI were favored to avoid hindering American industry's innovation capacity, while cooperation with partners aimed at promoting American economic preeminence in AI deployment. However, the Biden Administration recognized AI's dual nature, emphasizing the need for cooperation, regulation, and sustainable adoption while upholding societal values (Musetescu et al, 2022). Transatlantic cooperation became imperative given the potential for collaboration between AI industries and the progress of systemic rivals and revisionist actors (Bradford and Csernatoni, 2021).

The Biden Administration's new approach prioritizes risk management for new technology deployment, facilitating transatlantic cooperation and coordination on AI (Newman, 2021). American documents underscore cooperation with partners and allies to establish a global technological order aligned with shared values. International cooperation is a strategic pillar of the National AI Initiative (Schmidt, 2021), echoing earlier calls for cooperation emphasized by Allen (2019) and the EU's norms on AI ethics (EC, 2019). The National Security Commission on Artificial Intelligence's final report emphasizes justified trust in AI systems, support for democratic values, and combating malign information operations run by AI.

Transatlantic cooperation received a boost with the first EU-US Summit in seven years in late 2021, resulting in the establishment of the Trade and Technology Council featuring ten working groups, including one dedicated to AI ethics and implementation values. The US has also initiated a Partnership for Defense, including an AI dimension, with NATO states and non-NATO partners, reflecting an overlap with EU interests. Drake (2022) advocates for extending this cyber and defense diplomacy tool to Africa to counter China's influence, including in AI.

Furthermore, the OECD has defined its principles for secure AI, serving as high-level guidance for national and international frameworks. International organizations are increasingly preempting national divergences in AI by establishing high-level conceptual frameworks and agreements on principles, representing a form of cyber diplomacy.

The alignment of viewpoints is further demonstrated by the coherence between the AI principles outlined by the US Department of Defense and the NATO Principles on AI, as illustrated in Table 2.

DoD Principles on AI (DoD, 2019)	NATO Principles on AI (NATO, 2021)
• **Responsible.** Exercise appropriate levels of judgment and care, while remaining responsible for the development, deployment, and use of AI capabilities. • **Equitable.** The Department will take deliberate steps to minimize unintended bias in AI capabilities. • **Traceable.** The AI capabilities will be developed and deployed such that relevant personnel possess an appropriate understanding of the technology, development processes, and operational methods applicable to AI capabilities, including with transparent and auditable methodologies, data sources, and design procedure and documentation. • **Reliable.** The Department's AI capabilities will have explicit, well-defined uses, and the safety, security, and effectiveness of such capabilities will be subject to testing and assurance within those defined uses across their entire life-cycles. • **Governable.** The Department will design and engineer AI capabilities to fulfill their intended functions while possessing the ability to detect and avoid unintended consequences, and the ability to disengage or deactivate deployed systems that demonstrate unintended behavior.	• **Lawfulness** AI applications will be developed and used in accordance with national and international law, including international humanitarian law and human rights law, as applicable. • **Responsibility and Accountability** AI applications will be developed and used with appropriate levels of judgment and care; clear human responsibility shall apply in order to ensure accountability. • **Explainability and Traceability** AI applications will be appropriately understandable and transparent, including through the use of review methodologies, sources, and procedures. This includes verification, assessment and validation mechanisms at either a NATO and/or national level. • **Reliability** AI applications will have explicit, well-defined use cases. The safety, security, and robustness of such capabilities will be subject to testing and assurance within those use cases across their entire life cycle, including through established NATO and/or national certification procedures. • **Governability** AI applications will be developed and used according to their intended functions and will allow for: appropriate human-machine interaction; the ability to detect and avoid unintended consequences; and the ability to take steps, such as disengagement or deactivation of systems, when such systems demonstrate unintended behaviour. • **Bias Mitigation** Proactive steps will be taken to minimise any unintended bias in the development and use of AI applications and in data sets.

Other Approaches

While it's expected that all major state players with significant ambitions in AI development and deployment will establish national governance agendas for this technology, including provisions for collaboration and alignment with partners, states are not the only highly advanced entities engaged in this domain. Multinational corporations are also playing a crucial role in AI development and deployment, often benefiting from state funding for research and serving as primary channels for deployment. Consequently, corporate-originated frameworks for AI governance are also prevalent. Figure 3 illustrates the BMW Group's code of ethics for AI, exemplifying a company actively engaged in both collaboration with other entities and investment in AI development to revolutionize its core business in the automotive sector.

Conclusion

The advancement of AI technology has been remarkable, with significant potential for disruption evident in various sectors. While the concept of Artificial General Intelligence remains speculative, current AI capabilities have already enabled transformative applications, from driverless cars to autonomous drone fleets and extensive surveillance systems. This not only reshapes economies but also presents profound implications for military, intelligence, and counter-intelligence operations. Consequently, AI has become a focal point of both interstate competition and collaboration, particularly concerning managing its impact and establishing sustainable adoption frameworks.

This article has provided an overview of the governance challenges associated with the widespread adoption of AI technology and the evolving landscape of cyber diplomacy aimed at addressing these issues. Notably, the EU's aspiration to assert itself as a normative force in AI governance, leveraging the "Brussels effect," is significant. Additionally, transatlantic cooperation holds promise, with AI featuring prominently in initiatives between the US and the EU. Such collaboration gains urgency as China pursues its ambition to lead global AI innovation by 2030, highlighting AI's central role in defining future superpowers.

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