Group of 20



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Introduction

Artificial Intelligence, also known as AI, has brought the world into a new era of technological advancement and modernity. It can be found in smart assistants, such as Siri and Alexa, in programs such as ChatGPT and Copilot, and in physical examples, such as robots. AI has become a factor in our lives that has, and is continuing to, impact everyday lives, businesses, education, and sustainable development.

It has helped advance important fields such as medicine by helping diagnose patients, discovering and developing drugs, improving communications between patients and physicians, composing medical documents, and treating patients remotely. Artificial Intelligence has also proved to be invaluable in everyday lives.

However, with every new technological development, challenges arise as well. One example is artificial intelligence raising concerns in the education field. While using AI has helped with Sustainable Development Goal 4 (SDG 4), the goal to provide quality education, we are facing challenges, such as plagiarism in schools , that require us to rethink the handling and use of AI in the academic community.

As technology continues to develop, it is our responsibility to appropriately create laws and regulations to mitigate the rapid progression of artificial intelligence. We can tackle the disadvantages while enhancing the benefits that come with AI, which includes using AI to address the sustainable development of our world.

The United Nations' 2030 Agenda for Sustainable Development outlines 17 Sustainable Development Goals (SDGs) that AI can significantly support through innovative solutions. However,

the integration of AI into development efforts must be approached with caution. Unequal access, digital divides, data privacy concerns, and ethical issues pose significant risks. For AI to serve as a truly transformative tool for sustainability, inclusive and responsible development and deployment must be prioritized.

Definition of Key Terms

Artificial Intelligence

The ability of tasks associated with intelligent beings being performed by technology, such as computers and robots.

AI ethics

AI ethics refers to the studies which focus on how to optimize the benefits of artificial intelligence while reducing the risks and unfavorable outcomes.

Automation

The use and application of artificial intelligence technology, programs, or robotics to perform human tasks with minimal human intervention.

Deep learning

Deep learning is a subfield of machine learning that utilizes artificial neural networks with multiple layers to analyze data and make predictions.

Innovation

Innovation elucidates to the creating, development, or use of new ideas, methods, products, designs, or ideas.

Machine learning

Machine learning allows computers to learn patterns from large datasets rather than rely on pre-programmed rules.

Public-Private Partnerships (PPPs)

Agreements among government entities and private companies to work together in the funding and implementing of innovations, such as artificial intelligence.

Sustainable Development

An approach to meet the social and economic needs of human generations while balancing it with the natural environment, thus preserving and preventing damage.

Sustainable Development Goals (SDGs)

The SDGs are goals adopted by the United Nations in 2015 to build a better world for people and the planet by 2030. They are a call to action to promote prosperity while protecting the environment.

General Overview

History of Artificial Intelligence

In 1950, The Turing Test was proposed by Alan Turing to determine whether a machine could imitate human intelligence, which led to the foundation of intelligent machines. During the Dartmouth Conference in 1956, the term "Artificial Intelligence" was coined by John McCarthy, and in the 1950s and 1960s AI research was focused on symbolic reasoning and problem-solving.

In the 1990s and 2000s, the focus shifted toward data-driven approaches, especially machine learning. Deep learning started rising in the 2010s, which is a powerful type of machine learning that uses neural networks with many layers. Since then, AI has made major breakthroughs in image recognition, natural language processing, autonomous vehicles, and voice assistants.

Since the 2020s, concerns have arisen regarding AI since the rise of generative models like ChatGPT and DALL-E. Problems regarding bias, job displacement, privacy, and environmental impact have prompted calls for global regulation and responsible AI governance.

Key Issues Regarding Artificial Intelligence

A major concern is ensuring the ethical and responsible use of AI, with member nations emphasizing the need for human-centered systems that uphold human rights, privacy, and democratic values.

The G20 recognizes the growing digital divide between developed and developing countries, which could worsen global inequality, if access to AI technologies and digital infrastructure is not made more inclusive. However, challenges remain in ensuring that these benefits are distributed equitably. Issues around data governance—including privacy, security, and cross-border data flow—are also central, as AI depends heavily on large-scale data collection and processing.

Additionally, the impact of AI on jobs is a pressing concern, with G20 nations calling for greater investment in digital literacy, reskilling, and workforce adaptability to manage the transition. The G20 supports the development of global standards and regulations for AI safety and accountability, while working to prevent geopolitical tensions from undermining international cooperation.

Artificial Intelligence and Sustainable Development

Artificial Intelligence (AI) and innovation are increasingly being recognized as influential tools to advance sustainable development across multiple sectors. AI technologies, such as machine learning, natural language processing, and robotics, offer transformative solutions to global challenges, which include climate change, food insecurity, healthcare gaps, access to education, and more.

AI can be used to optimize the energy used in smart grids, improve crop yields through precision agriculture, and enhance disease diagnosis in less developed regions. The enhanced, modern technologies can accelerate progress toward the SDGs, particularly in areas like clean energy (SDG 7), quality education (SDG 4), and climate action (SDG 13).

The Role of the G20

The G20 recognizes the increasing role of artificial intelligence and innovation in the world and thus its effect on the advancement of the United Nations' Sustainable Development Goals. As a collective of the world's largest economies, the G20 promotes international cooperation on AI governance, data standards, and inclusive digital infrastructure. Through various working groups and

summit declarations, the G20 encourages ethical and human-centered AI development, to address the seventeen SDGs.

Major Parties Involved

United Nations (UN)

The United Nations recognizes artificial intelligence as a method for achieving the SDGs, and encourages and calls on entities to discuss initiatives to promote the responsible and equitable use of AI.

United Nations Educational Scientific and Cultural Organization (UNESCO)

UNESCO plays an important role in leading the ethical development and application of AI for sustainable development alongside the UN. It focuses on how AI affects human rights, addressing inequalities and promoting human rights specifically in education and access to knowledge.

United Nations Development Program (UNDP)

The UNDP ensures that Artificial Intelligence is used responsibly and ethically to address global challenges and promote equitable growth, thus accelerating progress towards the SDGs.

Group of 20 (G20)

The G20 ensures ethical governance, inclusivity, and positive societal impact in the use of AI innovation through endorsing international cooperation and policy discussions.

Organization for Economic Cooperation and Development (OECD)

The OECD helps guide international cooperation and research through recommendations in the development and deployment of AI for sustainable development.

United States of America (USA)

The United States is working actively to promote AI research and development, to establish ethical frameworks, and to integrate the use of artificial intelligence in the development of the SDGs. Famous American companies such as Google, Meta, and Microsoft have been contributing as well.

Google has been supporting AI education and training availability; Meta is investing in open-source AI innovation; and Microsoft is providing connectivity to 250 million unserved and underserved people in the Global South.

China

China has been working towards transforming industries, enhancing economic growth, and addressing environmental challenges. One example is China's Next Generation AI Development Plan, which is a strategy to position AI as an important driver of economic transformation, establishing China as a global AI hub by 2030.

European Union (EU)

The EU aims to provide trustworthy artificial intelligence, proposing new rules and actions for AI so we can harness its full potential and the benefits. This includes the AI Act, the first-ever legal framework on AI.

OpenAI

OpenAI plays a significant role in the sustainable development of AI innovation. It has been leading AI research focused on the development and deployment of AI technologies to benefit humanity, researching and releasing models such as ChatGPT, CLIP, and DALL-E, applied in the creative industries. This also includes work in the science field, researching the ways AI can help with climate change and sustainability.

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Timeline of Key Events

The timeline below highlights the key events that have occurred both in the past and recently that have made impacts on the development and use of artificial intelligence.

Date	Description of event
September 26th 1999	G20 founded
September 18th-19th 2023	SDG Summit - marked the beginning of a new phase of accelerated progress towards the SDGs
March 11th 2024	First UN resolution regarding AI is published (A/78/L.49) - to guide the regulatory development of AI technologies on the national and international level in the years to come.
June 13th 2024	AI Act - the first-ever legal framework on AI, addressing the risks of AI and positions Europe to play a leading role globally.
June 2nd 2025	Hamburg Sustainability Conference (HSC): Global leaders endorsed

UN involvement, Relevant Resolutions, Treaties and Events

- Seizing the opportunities of safe, secure and trustworthy artificial intelligence systems for sustainable development, 11 March 2024 (A/78/L.49)
- ITU/ AI FOR GOOD SUMMIT, 5 July 2023, Geneva, Switzerland
- Artificial Intelligence Action Summit, 10-11 February, 2025, Paris
- Enhancing international cooperation on capacity-building of artificial intelligence, 1 July 2024, (A/RES/78/311)
- AI Act - Regulation (EU) 2024/1689, 13 June 2024, (Document 32024R1689)
- SDG Summit, 18-19 September 2023

Previous Attempts to Solve the Issue

In order to use artificial intelligence responsible for sustainable development, methods have been and are continuing to be thought of to use artificial intelligence as effectively as possible for sustainable development.

Such previous attempts that have been made include summits where worldwide nations gathered for international cooperation and funding, the inclusion of AI topics in education, and mitigation of the growing divide concerning the technology in the MEDCs and LEDCs. Efforts have already been made to apply AI technology to green energy consumption, CO2 reduction, and environmental sustainability. In UN resolutions, such as A/78/L.49, solutions include encouraging and calling upon Member States to take action and cooperate to assist the developing countries towards equitable technological access, regulations that protect the human rights and fundamental freedoms concerning artificial intelligence, and more.

Possible Solutions

International AI funding and cooperation has been a vital factor in improving sustainable development so far. As mentioned earlier, the growing digital divide between developed and underdeveloped countries could grow if access to AI technologies and digital infrastructure is not made more global. Therefore, continuing international cooperation to provide modern artificial intelligence technologies to less developed countries is vital to reduce the already growing gap.

Promoting Public Private Partnerships (PPPs) is another method to encourage the funding of and enabling access of artificial intelligence-related innovations through agreements among government entities and private companies.

Another solution is to encourage the acceptance of ethical AI frameworks. Ethical AI frameworks provide a structured approach for developing and deploying AI systems, focusing on the well-being and social benefits of humans.

Supporting green AI initiatives not only means utilizing artificial intelligence for environmentally beneficial purposes, but also ensuring that artificial intelligence does not negatively

impact the environment as well. Work has already been started on ensuring that the application of AI technology emphasizes energy consumption, CO2 reduction, and environmental sustainability.

Lastly, as the world becomes more developed in the area of technology, especially artificial intelligence, AI literacy and education programs have become vitally important. Ignorance regarding the extent of the abilities of AI, can lead to criminals misusing the unawareness of the people. In order to avoid this, it is key that people learn how to manage and work in tandem with artificial intelligence.

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