



TroyMUN'26

UNCoST

Raising Awareness on Usage of AI
and Combating the Misuse of
Artificial Intelligence



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I. Letter from Secretary-General

Esteemed Prospective Participants,

On behalf of TROYMUN Family, I would like to welcome you all to the ninth edition of TROY Model United Nations Conference. My name is Baran Akarsu and it is an utmost honor and privilege to serve as the Secretary-General of TROYMUN 2026. The ninth edition of TROYMUN will be held with the collaboration of Parion Hotel and Çanakkale College once again and it will take place in Çanakkale. While the junior edition of TROYMUN will take place between 23th-25th of November, the senior edition will be held between 27th and 29th of November. Since our last edition We are extremely delighted and excited to meet once again and discuss some of the world's current problems. This year, we will host five committees in each of our editions. The committees will be a bit more interesting, more related to our current life and new rather than our past editions. The topic of Ensuring Habitat Protection and Biodiversity Conservation will be discussed in United Nations Environmental Programme for our Junior Edition. Reminding that it will be the first time of hosting UNCoST, The discussion is going to be covered under Raising Awareness on Usage of AI and Combatting the Misuse of Artificial Intelligence for our Junior Edition.

UNICEF with the topic of The Effects of Social Media Usage and Digital Bullying on Children's Mental Health: International Maritime Organization with the issue of Protecting Oceans from Plastic Pollution and Maritime Waste for our Junior Edition. Not to forget our last and another new gen committee for Junior Edition, include an exciting wait for you to shine as a star. FCC: The Galactic Senate In the Futuristic Crisis Committee, delegates will prepare for the upcoming galactic elections with their factions. There will be four factions competing in the elections.

Besides the elections, delegates will also cooperate with each other to solve the problems of the galaxy. Meanwhile for our Senior Edition,

United Nations Office on Drugs and Crime will discuss Combating the Rise of Cyber-Enabled Transnational Organized Crime and Darknet Marketplaces. UNWomen with the topic of Council of Europe Convention on Preventing and Combating Violence against

Women and Domestic Violence (Istanbul Convention). Senior Edition Of UNICEF's Agenda Item will be Ensuring the Protection of Children's Rights in Armed Conflicts: The Case of Gaza. As you knew from our last edition, We gathered together in a committee to dream about the America. We know it is in your dreams before your sleeps, American Dreams! An exciting rehandling of Historical U.S Senate comes with a new discussion; The Civil Rights. Our last and fifth for our Senior Edition will be a Crisis Committee. JCC will be with us in order to discuss The Napoleonic Era. We are looking forward to see you as a star, a delegate, a diplomat in our ninth edition which is special and the last before the double digits. Delighted to hear your solutions on these crucial topics and wish you fruitful debates. A group of experienced MUN delegates as well as successful and exemplary individuals well versed in the topics at hand will chair and monitor our committees. I have full faith in each and every member of our Academic Team and I believe they will guide you towards enhancing your academic knowledge along with practicing your debating and negotiating skills through presenting the best environment for a spirit of diplomacy. Meanwhile, now that they can arrange physical challenges, coffee breaks and social events again, I believe our amazing and all-mighty Organization Team members are in a frenzy! They are working with great dedication to ensure that you leave TROYMUN 2026 with unforgettable memories and lots of new friends. Overall, we are all looking forward to meet you again!

On behalf of TROYMUN family and Parion Hotel, I would like to thank you for your time and consideration and once again, with great pleasure, welcome you to TROYMUN 2026. Do not forget to apply, to read your study guides, prepare some speeches and motions, and buckle your seatbelts for three days of fun, discussion, games and politics! In case of any questions, do not hesitate to contact us. We would be more than happy to help you. See you in November

Your Sincerely,
Baran Akarsu

Secretary-General of TroyMUN

II. Letter from Under-Secretary-General

Esteemed Delegates,

Welcome to TroyMUN'26 on its 9th annual conference! My name is Ecrin Ertürk, and I will be serving you as your Under-Secretary-General of UNCoST this year. Firstly, I'd like to express my excitement about coming together at such a wonderful conference. Throughout these three days, we will learn, discuss, and share our thoughts about our agenda. But most importantly, we will have so much fun!

As you know, Artificial Intelligence is a very popular topic in today's world. With the development of AI, many things have changed in our lives. But as it becomes more popular, people have started to question whether it is an amazing source of information that can answer every question within seconds, or an untrustworthy tool that can turn into an unreliable search engine based on your characteristics. In this committee, we will discuss this topic and put AI's advantages and disadvantages on the table. I'm sure that you will give amazing speeches and come up with creative and unique solutions.

I'd like to thank my chairboard Bade, Zeynep, Elif and our mentor USG Cemre. With their help, we have prepared a detailed study guide for you to learn more about our agenda. I hope that you will grow throughout this experience, make new friends, and go back home with unforgettable memories.

Please don't hesitate to ask anything about our conference via email. My contact information is provided below.

ecrinert824@gmail.com

See you in committee!

Sincerely,

Ecrin Ertürk

III. Introduction to the Committee: United Nations Commission on Science and Technology for Development

The Commission on Science and Technology for Development (UNCoST) was established by ECOSOC in 1992. The first meeting of UNCoST was held in 1993 within the framework of CSTD. The main aim of the Commission is to study the ways in which science and technology can be used to promote balanced and sustainable economic and social development. The Commission's function is to provide ECOSOC and the United Nations General Assembly with substantive input on science and technology issues. The Commission does not implement projects such as provision of emergency food or medicines nor does it issue decrees for individual governments. Instead the Commission prepares reports and holds sessions to facilitate discussions that result in recommendations for action that governments can take with reference to available data and information. CSTD encourages Member States to share information on science and technology as well as to invest in education.

The change in the way the Commission works brought about by the development of computers, mobile phones, and the Internet in the 1990s and early 2000s has not led to an equal distribution of the new technology. While some people can communicate with others all over the world, access higher education, and work as free-lancers, others do not have electricity, stable Internet, or affordable ICT devices. Thus, a digital divide has emerged. UNCoST pushed hard to reduce it. The Commission also addresses how technology can assist states in improving healthcare systems, supporting farmers, protecting the environment, and creating new job opportunities.

In 2015, every United Nations Member States adopted the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs) contained within it. At that point, science, technology and innovation took on an even larger role. They can help move work forward on goals like quality education, health and well being, gender equality, clean

energy and climate action. UNCoST keeps its focus on technologies that include more people. This means that women, young people, people with disabilities, rural communities and developing countries should not be left out at all. Technology should lower inequality. It should not widen the gaps that already exist.

UNCoST is composed of 43 member states elected by ECOSOC for four-year terms. The composition of the commission is structured according to the principle of geographical representation to ensure that states from diverse regions can participate in decision-making processes. This is essential, as countries possess significantly different levels of experience in the fields of science and technology; while some states show off advanced research centers, major technology companies, and robust digital infrastructure, others may face challenges such as limited funding, poor internet access or a lack of trained professionals. The Commission is supported by the United Nations Conference on Trade and Development, known as UNCTAD, which provides research and secretariat support.

Even now, UNCoST keeps acting as a meeting point. States can talk about new shifts in technology and find ways to work as a group. The goal is the same throughout. Science and technology should improve people's lives and support sustainable development.

IV. Introduction to the Agenda Item:Raising Awareness on Usage of AI and Combating the Misuse of Artificial Intelligence

Artificial Intelligence (AI) emerged in the 20th century with the development of computers. Early computers were designed to perform specific calculations and execute given instructions.

In the 1950s, the term "Artificial Intelligence" started to be used to describe machines capable of performing tasks that involve aspects of human intelligence, such as decision making, problem solving, and learning. Since then, research in this field has been managed within public institutions, the private sector, and universities. The progress made by AI and its increasing presence in



daily life can be attached to the widespread adoption of the internet, the creation of large databases, and the growth of computing power. Today, AI is utilized in fields such as scientific research, transportation, communication, agriculture, education, and healthcare. However, the sudden emergence of generative AI has unfortunately brought with it concerns regarding issues such as the misuse of personal data, discrimination, privacy violations, cybercrime, misinformation, and "deepfakes."

The United Nations Commission on Science and Technology for Development (CSTD) is a secondary body of the Economic and Social Council (ECOSOC) and serves as the UN's focal point for science, technology and innovation issues related to development. The UNCoST addresses the role of science, technology, and innovation in achieving the 2030 Agenda for Sustainable Development. The Commission also provides a platform for strategic planning, the sharing of best practices, and fostering dialogue on new and emerging technologies, such as Artificial Intelligence. Since 1993, the secretariat services for the CSTD have been provided by UNCTAD. The CSTD's recent work has focused on addressing the use of AI for development purposes while simultaneously ensuring that society is protected from the adverse effects of AI.

Definitions relevant to the topic are as follows: "Artificial Intelligence (AI)" refers to systems capable of performing tasks that typically require human intelligence, such as decision-making, information analysis, and learning. "Generative AI" refers to systems capable of generating text, images, video, audio, and computer code. "Deepfake" refers to manipulated or fabricated content created or altered using AI technology. "Algorithmic bias" refers to AI systems making biased decisions against an individual or group. "Data privacy" refers to the protection of personal data against misuse or unauthorized access. "Transparency" refers to the requirement that AI systems enable individuals to understand the logic behind a specific decision made by the system. "Accountability" refers to the responsibility of companies, developers, and governments for the impacts of the AI systems they create. "Human oversight" (or "human-in-the-loop") indicates the necessity for significant decisions to be made by humans rather than solely by AI systems. Finally, "AI literacy" refers to the knowledge and skills required for individuals to understand and use AI safely.

Many global frameworks connect with this issue. In 2021, UNESCO Member States agreed to the Recommendation on the Ethics of Artificial Intelligence. Points to ideas like respect for people, rights, fairness, openness, responsibility, data protection, limits on environmental harm, and the role of human review. It also pushes for better public learning and AI literacy. Even if it is not a binding treaty, it still gives shared guidance that countries can use when shaping rules and plans.

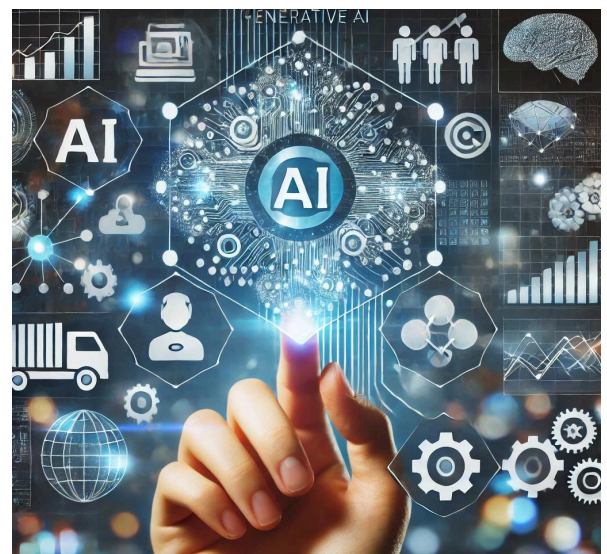
On 21 March 2024, the United Nations General Assembly passed Resolution 78/265. The title is “Seizing the opportunities of safe, secure and trustworthy artificial intelligence systems for sustainable development.” This resolution backs AI tools that are safe, protected, trustworthy, and in line with international law. It also says that rights tied to people should be upheld during each stage of an AI system, from start to use. The UN also asks for teamwork across countries, so the gains from AI reach everyone and connect to the Sustainable Development Goals.

On 1 July 2024, the General Assembly adopted Resolution 78/311, called “Enhancing international cooperation on capacity-building of artificial intelligence.” This one is aimed at supporting developing countries. The goal is to strengthen skills, tools, and local bodies needed to apply AI in a safe and effective way. It notes that many places lack specialists, steady money, digital systems, and dependable data. Cooperation can narrow that gap through training, sharing technology, joint research, and financial help.

1. Definition of Artificial Intelligence

Artificial intelligence (AI) is the computer science subfield concerned with automation of intelligent behavior by computer and machine systems.

AI applications and devices have sight and understanding. They can comprehend and respond to language used by humans. They can learn from their actions and from what they learn. They are able to advise users and experts in detail. A good example of something



that can act independently, without any human help or intelligence, is a self-driving car.

But for most AI researchers, practitioners and news stories, the conversation in 2024 is about big steps forward in generative AI (gen AI), a technology that can make new text, images, videos and other types of content.

Types of Artificial Intelligence Frameworks by Category

Systems are categorized according to their technical paradigms and functionalities to enable the analysis of AI in a multilateral policy context:

Machine Learning (ML): A branch of AI which uses statistical algorithms to detect patterns in data and improve performance based on experience, without explicit human programming. ML language is based on three major paradigms:

Supervised learning: the models are built on data sets for which both the input and the desired output are known.

Unsupervised Learning: Algorithms that learn from unlabeled data in an effort to discover hidden structures or categories (e.g., clustering algorithms).

Reinforcement Learning: Mechanisms that learn optimal behaviors through trial-and-error interaction with an environment that gives reward feedback.

Deep Learning (DL): More advanced form of Machine Learning (ML) using Artificial Neural Networks (ANNs) with many layers (deep architectures). Deep learning is a multi-layered process that mimics the human brain. Deep learning allows systems to handle enormous quantities of unstructured data including raw images, audio waves and video content.

Generative AI and Large Language Models (LLMs) are artificial intelligence systems that create new content (text, images, synthetic audio, code, 3D models) by learning patterns from training datasets. Large Language Models are typically built on the Transformer architecture . This architecture uses self-attention to handle sequences . The model is able to generate context relevant text , and can translate between different languages .

Functional & legal classification

Within the framework of international regulatory conversations, global bodies (such as UNESCO and OECD) categorize AI according to levels of competence:

Artificial Narrow Intelligence (ANI): artificial intelligence systems that are designed to perform a specific, limited task (e.g., automated translation, medical imaging diagnosis, chess algorithms, autonomous driving assistance). All the artificial intelligence technologies in use today belong to this classification.

Artificial General Intelligence (AGI) A hypothetical stage of intelligence in which an artificial intelligence is able to exhibit human-level intelligence in a variety of areas, such as abstract reasoning, contextual understanding, and cross-domain learning and adaptation.

Artificial Superintelligence (ASI) is a hypothetical future scenario for AI when the cognitive capabilities of the AI exceed human intelligence in all fields including creative innovation, scientific advancement and social awareness.

a) The Origins of Artificial Intelligence

The basic ideas behind AI come from developments in formal logic and mechanical computation in the early twentieth century. The theoretical groundwork was formally laid in 1950 by British mathematician and logician Alan Turing in his seminal paper, "Computing Machinery and Intelligence". Turing proposed a practical test for whether a machine could behave with human-like intelligence. This is the so-called "Imitation Game", now called the Turing Test.

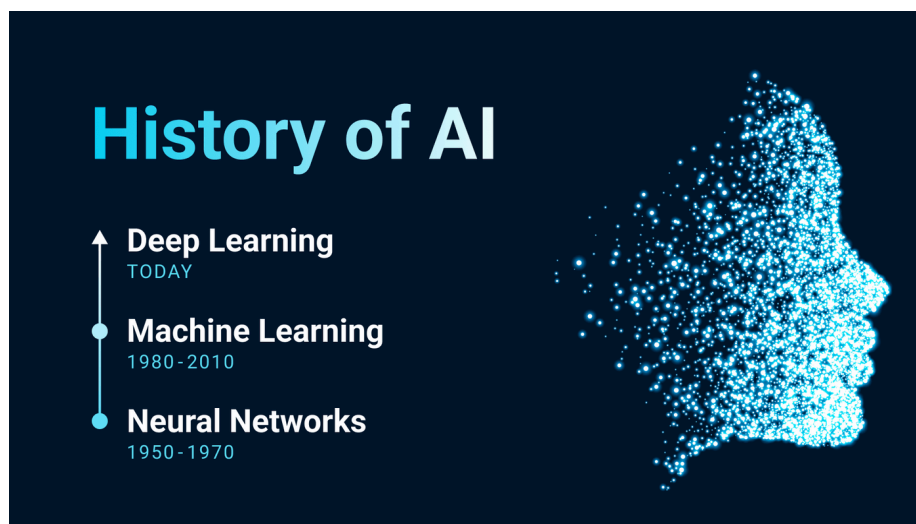
The formal birth of AI as a separate academic discipline took place at the Dartmouth Summer Research Project on Artificial Intelligence in 1956. This workshop, organized by John McCarthy, Marvin Minsky, Nathaniel Rochester and Claude Shannon, gathered leading mathematicians and cognitive scientists. It was McCarthy that formally coined the term "Artificial Intelligence" and expressed the core assumption of the discipline: "every aspect of

learning or any feature of intelligence can, in principle, be so precisely described that a machine can be made to simulate it.

Early Foundations (1950s) —> Symbolic AI & Logic (1960s-1970s) —> First "AI Winter" (1970s)

—> Expert Systems Boom (1980s) —> Second "AI Winter" (Late 1980s) —> Deep Learning & Big Data (2010s)

—> Generative AI Era (Present)



b) The Evolution of Artificial Intelligence

The structural development of AI has seen alternating periods of rapid technological advance and stagnation . These stagnation periods are often called “ AI Winters .

The first phase: Symbolic Artificial Intelligence and the first AI winter (1956-1980): Initial research concentrated on symbolic logic, rule-based systems and structured approaches to problem solving. The first enthusiasm led to overambitious commitments in machine translation and natural language comprehension. Since these predictions did not materialize due to limitations of hardware memory and processing, governments and research organizations cut down their financial support considerably. This led to the first “AI Winter” in the mid 1970s, triggered by the UK’s Lighthill Report (1973) and funding cuts by US DARPA.

The Second Wave: Statistical Machine Learning and Proficient Systems (1980–2000) The discipline was revived in the 1980s with the introduction of "Expert Systems"—software created with specific domain expertise to assist with medical diagnosis and financial forecasting. However, they were fragile, difficult to maintain and expensive to update, causing a second AI Winter in the late 1980s. By the late 1990s, research had irrevocably turned from rule-based logic to statistical machine learning. In 1997, a landmark victory occurred when IBM's Deep Blue chess computer used brute-force computational search algorithms to defeat the reigning world champion, Garry Kasparov.

The Third Wave: Deep Learning, Big Data, and Computational Growth (2010–2017) The conflux of three technological drivers changed AI from abstract research to global infrastructure.

Huge Datasets : The internet's growth resulted in large datasets necessary for training complex models.

Parallel Computing: Large-scale parallel matrix calculations were possible through the use of Graphics Processing Units (GPUs).

Architectural Advancements: 2012 witnessed the birth of AlexNet, which became a forerunner to pioneering developments in deep neural network frameworks, exhibiting great proficiency in recognizing images. In 2016, Google DeepMind's AlphaGo defeated world champion Go player Lee Sedol, demonstrating that deep reinforcement learning can master intuitive, highly complex environments.

The Generative AI Advancement (2017–Present) In 2017, researchers introduced the Transformer architecture ("Attention Is All You Need"), which allows models to process sequential data in parallel rather than in a recurrent manner. This enabled the emergence of large generative models capable of multi-modal operations (text, speech, image, code processing), and triggered the current wave of large commercial, academic, and public AI integration.

4. Impacts and Challenges of Artificial Intelligence

4.1 Current Benefits and Opportunities

AI can bring bright opportunities for development and for everyday life. In schools, it allows personalized learning and brilliant tutoring systems, so students may work at their own pace, and teachers can see who needs help sooner. This can matter a lot in places that have fewer resources. AI tools can widen access to learning and narrow gaps in digital skills.

In healthcare, AI can help spot problems earlier. It can also speed up the process for doctors to reach a diagnosis, and it can guide treatment plans easily. Some AI based tools can review scans and flag signs of cancer sooner than other older methods. In many lower income areas, health workers can use AI to check for illnesses like tuberculosis in a quicker way. The tools can also be used with a local language support. AI can also speed up work on new drugs and vaccines, which can save many people's lives in the future.



AI also creates economic opportunities. It can lift output for workers and firms. It can help small and medium businesses serve customers better. Governments can use it to improve public services and make choices faster. Many reports suggest that AI may add large amounts of value to the world economy by 2030. They also point to new jobs and new sectors, such as health care, factories, teaching, and also power.

For the planet and disaster response, AI helps track major risks. It can monitor climate threats, loss of wildlife, cutting of forests, and air or water pollution. It can strengthen early warning systems for storms, floods, and other events. It can also support plans for adapting to a changing climate, mainly in areas that face the most harm. In cities, AI tools can help ease traffic flow, support stronger infrastructure, and improve safety. They can also help urban life feel more sustainable.

AI can play a role in inclusion too. It can help people with disabilities to use tech more easily. It can support mental health services, also it helps local communities find reliable information in their own languages.

4.2 Possible Risks and Challenges

Artificial intelligence brings us benefits, but it also creates serious risks and challenges that must be managed carefully. One major concern is that AI is weakening skills if people rely on it too much. When students, workers or decision makers use AI for even every little task they may start to think less critically and become more passive. Researchers call this " offloading" or "cognitive laziness": People delegate more mental effort to AI so their own judgment, creativity and problem solving abilities can slowly decline. In this sense AI can make people "lazier" not because they do not want to work. Because the technology makes it very easy to avoid deep and over thinking.

AI also threatens information integrity and social trust. Generative AI can produce every text, images and videos at a larger scale, which makes disinformation, "deepfakes" and online manipulation much easier than ever. This can weaken trust, damage democratic processes and increase social polarization. There are also risks for human rights and security; AI can be misused for cyberattacks, surveillance, autonomous weapons and new forms of exploitation including gender-based violence and sexual abuse material.

Economically AI may widen inequalities between countries. A small number of firms and states take control of advanced AI systems, which can concentrate power and limit the ability of other countries to shape the technology. Millions of jobs held by women and young people are exposed to automation while many regions still lack the infrastructure, skills and computing power to benefit fully from AI. In addition large AI systems require energy and lots of water which can create environmental problems.

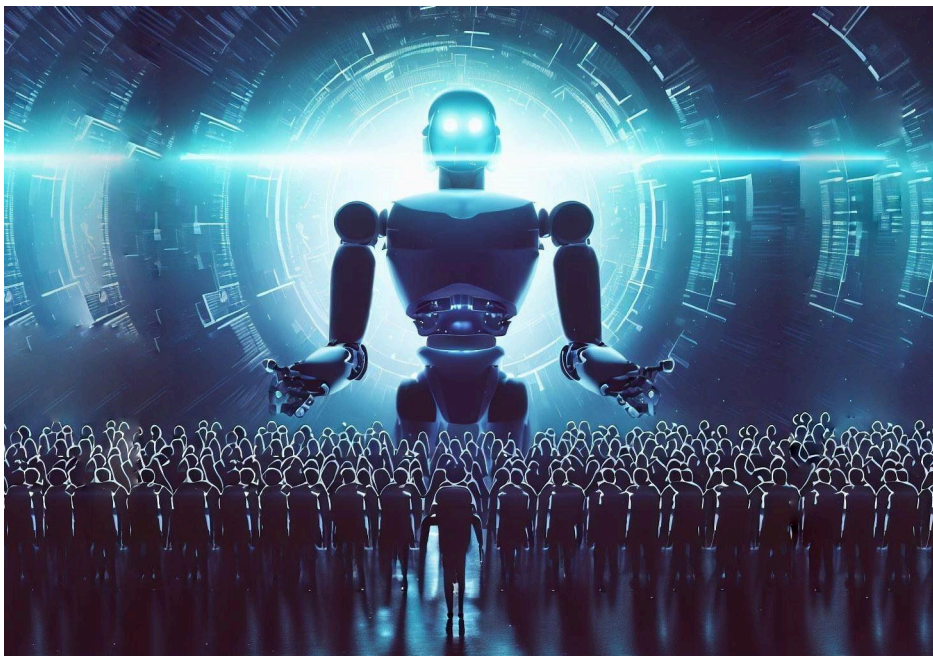
And there is also a risk of losing human control over powerful AI systems. Experts warn that autonomous AI could behave in deceptive ways or be used by malicious actors to cause

serious harm. Without governance independent oversight and clear limits AI could become difficult to control and pose an existential risk to humanity.

a) The Influence on Society

AI is no longer a tool for us; it is becoming a part of the social environment where people think, decide and interact. And this can bring both opportunities and risks for autonomy and for the quality of public life.

On one hand AI can help with learning, creativity and everyday problem solving. On the other hand, always depending on AI can slowly make people feel less in control of their own decisions. When algorithms suggest what to read, what to buy, what to watch or what to think about; people might start to follow these ideas without even thinking about their own values. Over time this can weaken "autonomy"; the ability to make your own judgments, to be responsible for your own beliefs and even being yourself. In this way AI does not make some tasks easier; it can also make people more passive and less confident in their own thinking.



AI also changes how societies talk to each other and how they trust each other.

Recommendation systems and AI based tools that create content can spread views, create

echo chambers and make it hard to tell what is real and what is fake. As AI-generated texts, images and voices become cheaper and harder to spot, people might start to doubt everything they see online. This "culture of distrust" can make fewer people want to vote, make society more divided and make discussions harder.

AI affects our culture and even our own identity. Because most models use languages and viewpoints they tend to push a more similar global culture while making minority voices less noticeable. This can make public discussions less diverse. Stop different groups from sharing their own ideas in their own way.

b) Current and Possible Risks on Environment

The rapid growth of digital technologies and artificial intelligence is putting growing pressure on the planet's natural resources. Behind every AI based tool, lies a vast physical infrastructure of data centres, networks and devices that consume energy, water and land while generating waste and also emissions. Artificial intelligence can surely help watch ecosystems and make energy use smarter. The places that run Artificial intelligence put heavy strain on water, energy, land and waste systems.

Data centres are already using a lot of electricity and water. In 2025 worldwide data centres used about 448 terawatt-hours of electricity and around 4.5 trillion litres of water. They produced around 189 million tonnes of CO₂. Many of these data centres sit in places that already have a little water, where even one big data centre can use as much water as a small town or a city with tens of thousands of people.



Projections say these impacts will grow faster and faster each day. By 2030 data centre power use could almost double to 945 TWh a year with Artificial intelligence contributing a big part of this rise. Water use is expected to reach about 9.3 trillion litres each year which's enough for the basic home needs of about 1.3 billion people in Sub-Saharan Africa. The land used by data centres may also more than double, going over 14,500 kilometres.

Waste, AI servers and the hardware that goes with them have lifetimes and are swapped out often making a fast-growing pile of e-waste that holds dangerous chemicals like lead, mercury and cadmium. A lot of this waste ends up in landfills. It is handled informally where toxic substances can seep into soil and water and hurt both nature and people. As predicted, AI-related parts could add millions of tonnes of e-waste around the world by 2030.

There are also some hidden problems tied to supply chains. AI hardware relies on minerals and rare elements that are often mined in ways that are not sustainable which destroys habitats, pollutes and creates social disputes. Also most of the electricity that powers data centres still comes from fuels in many areas, which adds more greenhouse gas and climate danger.

c)Effects on Health

Health is one of the areas where AI feels most personal; because it touches minds and daily habits. Used well AI can help some doctors detect diseases earlier, design personalized treatments and extend basic care to underserved regions. Predictive AI based tools can warn about the risks before symptoms appear and some mental health chatbots show short-term benefits for mild depression.



AI can also harm health when it replaces human judgement. Self-diagnosis via chatbots often oversimplifies conditions and may delay real treatment or encourage dangerous self-medication. In health vulnerable users can form strong emotional bonds with AI experience worsened symptoms or receive inappropriate advice during crises such as suicidal thoughts. Many general purpose chatbots do not reliably recognize crisis situations or direct people to help.

Some concerns about bias, privacy and accountability create some kinds of risks. Models trained on data can misdiagnose or undertreat certain groups while large-scale collection of sensitive health data increases the danger of breaches and misuse. Responsibility for errors is often unclear which weakens protection.

Overall, AI can strengthen health systems when it supports, not substitutes, human care. Without regulation, transparency and professional oversight it risks creating a parallel unregulated "shadowing health system" that is convenient but it is unsafe.

V. Artificial Intelligence in the Digital Age

Artificial intelligence is not only a technological innovation, but also a connection between physical and digital worlds, which completely will transform the way humans interact with machines. Cognitive intelligence already has a leading role in Europe's digital future. Today the main challenge is how to implement it in a way that is fully relevant to European values within a digital Europe. Authors in paper defines the concept of artificial intelligence and to indicate its historical development, proposed a classification of the types of artificial intelligence services, develop a generic architectural model of an artificial intelligence system with a self-study control method and develop a generic architectural model of an artificial intelligence system with a self-study control method.

3. Applications of Artificial Intelligence

Artificial intelligence is used in many areas of daily life and professional work. It helps people process large amounts of information, make faster decisions, and complete routine tasks more efficiently. In education, AI can support personalized learning, feedback, and academic planning. In healthcare, it can assist with diagnosis, patient monitoring, and medical research. In business and industry, AI improves customer service, data analysis, production processes, and supply-chain management.

AI is also used in finance, transportation, agriculture, cybersecurity, and environmental protection. It can identify patterns, predict possible outcomes, and help organizations use resources more effectively. However, the use of AI must be guided by rules that protect privacy, reduce bias, ensure transparency, and keep humans responsible for important decisions.

3.1 Artificial Intelligence in Education

The use of educational technology in schools is becoming increasingly mainstream. Similarly, the use of AI, a technology that enables machines to perform tasks typically requiring human intelligence, is becoming commonplace in everyday life. Combining the two is a natural progression that can benefit students, teachers, staff, and administrators alike.

AI can take many forms in education. Recently, there has been growing interest in generative AI tools capable of creating content and completing tasks in response to natural language queries. These systems can personalize content, provide near-real-time feedback, and facilitate coaching and skills development.

Integrating intelligent AI technology into schools can also assist teachers, staff, and administrators by automating repetitive or time-consuming tasks, thereby freeing up time to focus on fostering student success.

AI powered systems in education will gain momentum over the next few years, driving the need for future-ready devices that enable new levels of collaboration, efficiency, and creativity while supporting the effective and efficient deployment of AI. This is particularly significant given the traditional four-year refresh cycle in education.

Security will also remain a top priority. Educational institutions must develop security strategies capable of withstanding the challenges of a complex security landscape while protecting user and data privacy across student, teacher, and staff devices and network infrastructure.

Educational institutions can harness the benefits of AI today. The steps taken to integrate AI will lay the foundation for easily capitalizing on future opportunities and use cases.

3.2 Artificial Intelligence in Healthcare

Advancements in artificial intelligence technology offer unprecedented opportunities to revolutionize healthcare, making it more effective, accessible, and economically sustainable. By fostering the integration of AI through appropriate policies, we can enhance equity, improve care, and ensure that new technologies, treatments, and medicines benefit society as a whole.

Artificial intelligence is transforming the pharmaceutical industry across the entire lifecycle of medicines—from drug discovery and development to pharmacokinetics, evaluation, manufacturing, marketing, approval, and pharmacovigilance.

In drug discovery, AI accelerates the process by identifying targets and optimizing the design of medical products. During the development phase, AI improves formulations and facilitates personalized medicine. In pharmacokinetics, AI-driven predictions assist in determining optimal dosages, while in clinical trials, AI aids in patient stratification, the use of digital twins, and study simulations. Manufacturing benefits from AI through automation and enhanced quality control.

Moreover, artificial intelligence facilitates drug licensing and pharmacovigilance by enabling digital submissions and analyzing real-world data to detect safety signals early. By streamlining research, optimizing processes, and minimizing clinical trial failures, these advancements significantly reduce time and costs, thereby accelerating the delivery of safe and effective medicines.

These developments foster a regulatory environment that supports AI-driven innovation in pharmaceuticals, enabling further innovation, efficient data integration, informed regulatory decision-making, and effective product lifecycle management. Beyond clinical practice, AI is also spearheading innovation in public health.



Predictive analytics enable early intervention and prevention strategies by identifying patterns and trends. For instance, AI can forecast disease outbreaks by analyzing diverse datasets, allowing for timely and targeted public health interventions that curb the spread of disease and minimize economic impact.

As we integrate AI into healthcare, we must focus on the ultimate goal: delivering equitable, high-quality healthcare to everyone through this transformative technology. With the right policies and innovations, AI has the potential to pave the way for a healthier and more sustainable future for all.

3.3 Artificial Intelligence in Science and Technology

Artificial intelligence (AI) is driving rapid change in the fields of science and technology. By enabling computers to analyze vast amounts of data quickly, AI facilitates faster research, the generation of new ideas, and the resolution of complex problems. According to the United Nations Conference on Trade and Development, AI has the potential to accelerate every stage of research and development.

Scientists employ AI across a wide range of disciplines. In healthcare, for instance, it contributes to the early diagnosis of diseases and the development of new medications. In climate research, it can be used to forecast weather patterns, monitor water resources, and mitigate the risks associated with natural disasters. In agriculture, it enables increased crop yields, soil analysis, and strategies to combat drought. Furthermore, AI can plan laboratory experiments and analyze scientific data more rapidly.

Another significant benefit of artificial intelligence is its ability to reduce both the cost and duration of scientific research. AI systems capable of examining massive datasets can uncover connections much faster than humans could on their own. This allows scientists to dedicate more of their time to conducting experiments, interpreting results, and developing innovative solutions. The OECD notes that by boosting scientific productivity, AI can support efforts to tackle global challenges such as climate change and emerging diseases.

3.4 Generative AI in Art Mediums

AI-generated artworks challenge traditional ideas of aesthetics and philosophy. They raise important questions about how these works should be understood and classified. One main question is whether AI art fits into existing ideas about art or whether we need to create new categories. This issue is not only about classification. It also makes us rethink the nature of artistic production and authorship at a time when machine-learning models and algorithms play an increasingly important role in creative work.

AI-generated art has many similarities with traditional art. Its results often look like paintings or drawings, and people can appreciate them because of their visual and aesthetic qualities. Today, art made with generative AI models is increasingly created by trained artists and displayed in art galleries. In terms of its appearance and function, AI art has a clear connection with traditional art.



However, there are also important differences. Traditional ideas about art usually assume that a work has one creator with one clear intention. AI art challenges this idea because creative responsibility is shared among several elements. These include the human artist who designs

the prompts or selects the final results, the AI model that produces the images, and the datasets used to train the algorithm.

For this reason, the rise of AI-generated art gives us an opportunity to rethink traditional ideas about art. Instead of simply changing old artistic categories to include computer-based creativity, we may need to develop new ways of understanding art. We might call this new approach “computational aesthetics,” “generative ontology,” or use another term. Whatever name we choose, it is clear that AI art does not fit easily into traditional artistic frameworks. It forces us to reconsider what artistic creation means in an age when human and machine creativity increasingly come together.

3.5 Politic Applications

Artificial intelligence is becoming increasingly important in politics. It is used in election campaigns, public services, election management, and communication with citizens. AI can make political work faster and more organized, but it can also create serious risks for democracy.

One important use of AI is in election campaigns. Political parties can use AI to study public opinions and understand the concerns of different groups. They can also use it to prepare speeches, posters, videos, and social media messages. AI allows campaigns to send different messages to specific groups of voters. This can help politicians communicate more effectively with citizens. However, using personal data in this way may threaten privacy and allow voters to be manipulated.

AI can also support election management. It may be used to organize voter lists, register voters, plan election resources, answer questions from voters, monitor polling places, and check election results. These applications can reduce mistakes and make election processes more efficient. However, election authorities must carefully check AI systems because a technical error or biased system could affect voters and damage trust in elections.idea+1

Another political application is in public administration. Governments can use AI to process large amounts of information, provide online services, identify public needs, and help officials make decisions. For example, AI may help a city improve transportation or distribute public resources more efficiently. It can also support communication between governments and citizens.

Despite these benefits, AI creates important dangers. Political actors may use deepfakes, fake audio, or false videos to damage the reputation of an opponent. AI can also produce and spread misinformation very quickly. This may confuse voters, increase social tensions, and reduce trust in democratic institutions. The United Nations has warned that uncontrolled AI can spread disinformation, encourage hate speech, and distort public opinion.

AI may also make political communication less fair. Wealthy parties and powerful organizations may have better technology and more data than smaller parties. As a result, political competition may become unequal. In addition, algorithms used by social media platforms can decide which political messages people see, which may influence public opinion without sufficient transparency.

3.6 Warfare Applications

Artificial intelligence is being used more and more in war and defense. Armies can use AI to quickly study large amounts of information, identify threats, and support military decisions. Although this technology can make some tasks faster, it also creates serious risks for civilians and international law.

One important use of AI is military decision support. AI systems can quickly analyze satellite images, radar information, and other data. In this way, they can give military officials suggestions about possible threats, targets, and the movement of troops. AI can also be used for logistics, transporting supplies, maintaining military vehicles, and surveillance activities.

Another area is autonomous weapons systems. After they are activated, these systems may choose and attack targets without direct human control. Such technology can make military

operations faster. However, it may also cause great harm if the system chooses the wrong target or cannot distinguish between civilians and soldiers. The International Committee of the Red Cross states that less human control can increase the risk of unexpected and illegal attacks.^{documents.un+1}

AI can also be used in cyber warfare. It can help find weaknesses in computer systems, detect attacks, and strengthen defense systems. However, cyberattacks may also affect civilian areas such as hospitals, energy networks, transportation systems, and communication networks. This can make conflicts more difficult to control and cause harm to more civilians.

One of the biggest problems with using AI in war is the question of responsibility. If an AI system makes a wrong decision and harms people, who should be responsible? Should it be the company that developed the software, the military officer who used the system, or the state that approved the decision? These questions have not been completely answered yet. In addition, AI systems can produce biased or incorrect results when they are trained with poor or biased data.

For this reason, AI used for military purposes must follow international humanitarian law. Civilians and fighters must be distinguished, attacks must be proportionate, and unnecessary suffering must be avoided. Humans should supervise AI systems, especially when decisions involve life and death. People must keep the authority to make the final decision. NATO also emphasizes the importance of safety, responsibility, transparency, and human control in military AI.

VI.Ethics

The ethical governance of Artificial Intelligence is one of the most important multilateral challenges of the 21st century. The embedding of artificial intelligence in socio-economic infrastructures (e.g. judicial decisions, credit evaluations, healthcare services, public surveillance) entails systemic moral risks that jeopardize human rights and democratic governance.

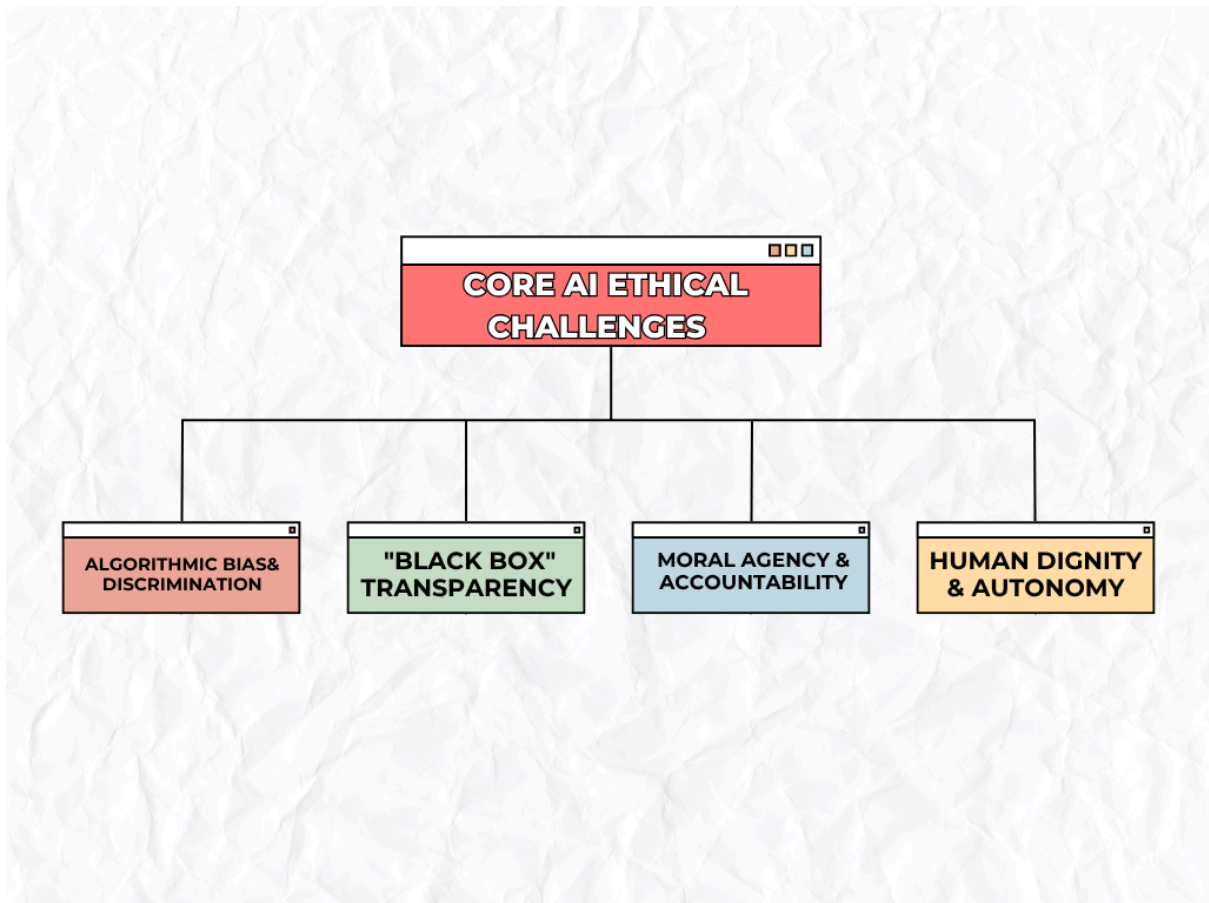


Figure 1: Conceptual Framework of Core AI Ethical Challenges.

Source: Designed by the author via Canva, adapted from *UNESCO Recommendation on the Ethics of Artificial Intelligence (2021)* and *OECD AI Principles*.

Fundamental Ethical Dimensions

1. Algorithmic Bias, Discrimination, and Historical Perpetuation

Artificial intelligence systems don't decide in a vacuum – they reflect the datasets they are trained on. If the historical training data contains biases of a societal, racial, gender or socio-economic nature, the AI system will codify and amplify these disparities.

- **Criminal Justice:** Predictive policing algorithms trained on past arrest data tend to unfairly target minority communities, creating a feedback loop of over-policing.

- Employment & Credit: Automated hiring platforms and credit allocation algorithms have been shown to disadvantage applicants from historically marginalized backgrounds with indirect proxy variables (e.g. zip codes or school attendance).

2. The “Black Box” Problem and Explainability (XAI)

Modern deep neural networks have hundreds of billions of parameters, which makes it computationally hard or impossible to understand why an AI model produced a given output. This black box phenomenon of lack of transparency is a violation of the fundamental right to due process when artificial intelligence systems are used in judicial sentencing, welfare allocation or medical triage. The absence of Explainable AI (XAI) means people have no real way to challenge the automated decisions that directly impact their lives.

3. Moral Agency, Liability Vacuum, and Human-in-the-Loop Safeguards:

If a car hits a pedestrian or a deadly disease is misdiagnosed by a medical AI system, who is liable is still an open legal question. The diffusion of responsibility among software developers, data vendors, system deployers, and end-users creates a “liability vacuum.” Ethical frameworks require an HITL or HOTL architecture to be maintained so that important decisions are still overseen by humans.

4. Human Dignity and Socio-Economic Autonomy:

Highly-personalized artificial intelligence algorithms built to optimize engagement can shape human behavior, limit the range of perspectives to which we are exposed (filter bubbles), and violate cognitive liberty. Respect for human dignity means that people have real autonomy in their personal choices and not that they are nudged subtly by behavioral prediction algorithms.

5. Plagiarism and Consent in Data Training Processes of AI

The swift progression of sophisticated generative AI models depends on processing massive amounts of data collected from the public internet. This data ingestion process raises deep ethical, economic, and legal concerns about consent, digital labor, and intellectual property rights.

Free Data Scraping and Extraction

Technology companies use automated web crawlers to scrape billions of web pages, digital books, academic papers, visual art and user-generated social media posts to build foundational Large Language Models and text-to-image generators.

- **Lack of Informed Consent:** Creators, writers, researchers, and general web users often do not explicitly consent to their digital footprint or creative work being used in training corpora.
- **Value Creation Asymmetry:** AI developers create commercial multi-billion-dollar products from scraped data, but the original content creators receive no attribution, monetary compensation, or revenue-sharing opportunities.
- **Opt-Out versus Opt-In Paradigms:** At present, the onus of protection is almost wholly on content creators to take proactive steps on technical blocks (e.g., robots.txt directives) to prevent scraping, rather than requiring AI developers to seek explicit opt-in permission prior to data ingestion.

5.1 Copyright Issues of Generative AI in Art

The interaction between generative AI and the visual/auditory arts poses novel challenges for international copyright regimes, which are globally governed by treaties such as the Berne Convention and TRIPS Agreement.

1. The Legality of Data Ingestion (Training as Infringement)

One of the big legal battles is whether downloading and processing artistic works that are copyrighted to train neural networks is copyright infringement or whether it is exempt under "Fair Use" (in the United States) or "Text and Data Mining (TDM) exceptions" (in the European Union). AI companies argue that training is transformative, like a human student

studying existing works of art to learn a technique. Artists argue AI training consumes copyrighted expression to create market rivals, infringing economic rights.

2. Copyrightability of AI-Generated Outputs

Copyright protection under traditional international legal systems requires human authorship. All over the world, courts and intellectual property offices (including the US Copyright Office and EU authorities) have always said that works made solely in response to an AI prompt aren't human-created and therefore aren't eligible for copyright. But where to draw the line, where human prompt engineering and editing are sufficient to qualify for copyright, is a regulatory challenge.

3. Style Mimicry and Economic Displacement:

Though individual artistic styles are generally not protected under copyright law, generative AI models can mimic a living artist's unique style through the use of targeted prompts (e.g., "in the style of [Artist Name]"). This ability allows automated systems to produce thousands of competing images in a flash, threatening the livelihoods of professional artists, illustrators, and animators without fair pay.

6. Cybersecurity

Artificial Intelligence is a potent dual-use technology in the domain of cybersecurity. Defenders are using AI to speed up threat detection and secure their networks, and attackers are increasingly using AI to perform sophisticated, automated and highly targeted cyber attacks on a large scale.

- **Defensive and Offensive AI Strategies:** Defensive Applications Security personnel make use of machine learning algorithms to analyze network traffic patterns, rapidly identify anomalies in behavior, automate the patching process, and quarantine compromised systems before data is stolen.
- **Exploiting Aggressive Instruments:** Cybercriminals and state-sponsored adversaries use LLMs and automated scripts to scan software code for zero-day vulnerabilities,

generate polymorphic malware (malware that keeps changing its code so that traditional antivirus tools cannot detect it), and automate spear-phishing operations.

6.1 Privacy and Deepfakes

Loss of privacy and surveillance

Artificial intelligence systems can be deployed for invasive data harvesting, mass biometric surveillance and automated profiling. Advanced facial recognition technology (FRT) enables governments and private entities to constantly monitor people's movements when deployed in public spaces, making it more difficult for people to feel anonymous in public. AI tools that collect data may also be able to connect pieces of broken data to build private profiles of individuals that reveal things like political views, medical conditions, and sexual orientation without the user knowing.

Fake news sources and deepfakes

Deepfakes are fake audio, visual or video files created or manipulated using deep learning techniques such as Generative Adversarial Networks and Diffusion Models. Criminals can use these tools to change their names, to swap faces and make voice recordings that sound real.

- **Non-Consensual Exploitation:** Most deepfake content online is non-consensual explicit imagery, with victims being primarily women, public figures, and minors. This is a very bad breach of privacy, body autonomy and personal dignity.
- Cybercriminals are using AI voice cloning technology to impersonate business leaders, government officials or family members on phone networks, leading to financial fraud and social engineering. These attacks target people and bypass normal two factor authentication systems and trick people into sending money or giving up sensitive information.

- **Identity Theft & Biometric Breach:** The proliferation of hyper-realistic fake media endangers biometric authentication systems such as facial recognition for banking or voice recognition to open doors, posing structural risks to digital identity frameworks.

6.2 Disinformation in Misuse of Artificial Intelligence

The democratization of generative AI tools has reduced the cost, technical threshold, and time needed to execute large-scale, coordinated disinformation campaigns.

a) Scalable Propaganda and Synthetic Information Ecosystems

With generative text models, threat actors can generate contextually coherent, culturally nuanced propaganda articles, fake news reports, and social media commentary in multiple languages in an instant. LLM-enhanced botnet swarms can participate in synthetic human-like conversations on digital platforms, artificially boosting specific narratives and creating a sense of perceived public consensus (astroturfing).

b) Electoral Interference and the Democratic Destabilization

Bad actors use deepfake audio and video during election cycles to misrepresent political candidates, forge statements, or fabricate audio recordings right before voting days so that target audiences don't have enough time to fact-check or debunk the claim.

c) The Politics of Cognitive Warfare and Social Polarization

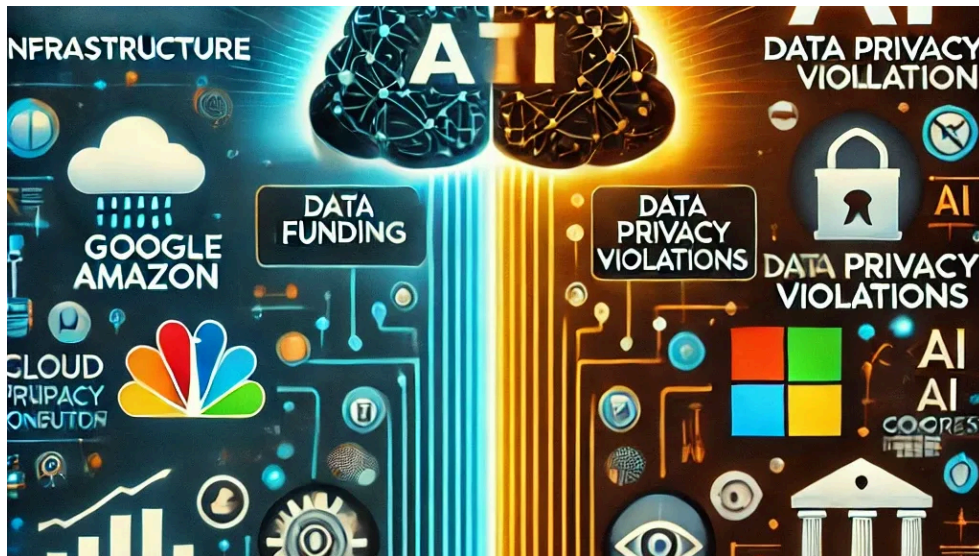
AI-enabled disinformation preys on psychological vulnerabilities by amplifying inflammatory content, racial grievances and social cleavages. Also, the algorithms are designed to keep the user engaged, so the content that gets you outraged gets prioritized. The result is an echo chamber that undermines social cohesion.

d) The “Liar's Dividend”

As the public becomes more aware of deepfakes, corrupt actors and authoritarian regimes exploit the public's skepticism, claiming that real-world evidence of wrongdoing is merely a “AI-generated fake.” This erosion of objective truth undermines public confidence in the media, the courts and democratic governance.

7. Knowledge Monopoly and Tech-oligarchy of Artificial Intelligence

The development and use of state-of-the-art AI models is largely controlled by a handful of multibillion-dollar tech companies based in just a few developed countries. This structural concentration has created a global tech oligarchy that has caused significant challenges for global governance, economic growth and digital sovereignty.



Three Types of AI Monopoly

There are three big problems that make it too expensive to train state-of-the-art frontier models:

1. Hardware Monopoly (Semiconductors & Compute): Specialized semiconductor chips necessary for AI training (think high-end GPUs) require extreme supply chain bottlenecks to be created. One company owns the photolithography hardware, a handful of foundries make the chips, and one big designer makes most of the world's AI computing hardware.

2. Cloud and Infrastructure Hyperscalers: Training a single frontier LLM requires tens of thousands of interconnected GPUs running nonstop in special data centers, consuming megawatts of electricity. The hyperscalers are the handful of global tech companies with the cash and infrastructure to run these kinds of businesses.

3. Data and Talent Concentration Tech monopolies have sole access to enormous data sets about users that they gather through their existing platforms. At the same time, the best experts in AI from universities and public research institutes all over the world are being recruited by these companies because they can provide better salary and more computer resources than the institutes.

Implications for the Global South and Multilateral Governance

This is called digital colonialism and dependence . Developing countries are forced to use technology instead of creating it . Developing countries depend on closed, proprietary AI APIs from other countries and are structurally dependent on those APIs. This drains away developing countries' local capital and robs them of their digital sovereignty.

AI is accelerating scientific discovery, industrial automation and economic growth in developed economies. The world's North-South divide is widening. Developing countries that have no access to computers risk lagging even further behind in digital transformation and economic growth.

Linguistic Erasure and Cultural Homogenization The majority of the baseline training datasets are designed from English and Western perspectives. This results in cultural bias in commercial LLMs, lack of local social context, and poor performance in low-resource languages and native dialects. This trend could result in the world being dominated by one cultural view, which would be damaging to the diversity of languages spoken there.

8.Previous UN Initiatives on Artificial Intelligence

The UN's systematic work on AI began in March 2020, when UNESCO established an Expert Group of 24 members to create a global standard on AI ethics. As a result of this work, in November 2021, the UNESCO General Conference officially adopted the Recommendation on the Ethics of Artificial Intelligence, the world's first global AI ethics framework. This historic document, approved by all 193 UN member states, states that human dignity and international human rights must be respected throughout all stages of AI systems.

In October 2020, the UN High-Level Committee on Programmes (HLCP) established the UN Inter-Agency Working Group on Artificial Intelligence (IAWG-AI). This group is co-chaired

by the International Telecommunication Union (ITU) and UNESCO. Its purpose is to harmonize AI policies and coordinate programs within the UN system.

In September 2022, this working group published 10 principles on the ethical use of AI within the UN system. These principles were prepared to guide AI use across all UN organizations and were approved by the UN Chief Executives Board (CEB).

On September 22, 2024, the UN General Assembly adopted the Global Digital Compact (GDC) as Annex II of the "Pact for the Future". This is the first global consensus document addressing AI governance together with broader digital issues like connectivity, data privacy, and online safety. This compact created a global digital cooperation framework based on human rights and sustainable development, placing the Global Dialogue on AI Governance at its center.

UNESCO continues to play a central role in AI governance. It works with more than 80 countries to strengthen legal frameworks, institutional capacities, and governance arrangements. UNESCO's 2021 Recommendation on the Ethics of Artificial Intelligence continues to provide the common normative foundation as the world's first and most comprehensive global standard in this field.

9. International Cooperation

Artificial intelligence (AI) is transforming the world rapidly, affecting everything from healthcare to security. Because AI does not respect national borders, countries must work together to manage its risks and share its benefits.

International cooperation on AI is essential to ensure this powerful technology serves all of humanity. AI systems developed in one country can impact people worldwide. For example, an AI model trained in the United States might be used in hospitals across Africa, or an autonomous weapon system developed in one region could threaten global security. Without international rules, there is a risk of an "AI race" where countries compete without safety standards, potentially leading to dangerous outcomes.

In November 2021, UNESCO adopted the Recommendation on the Ethics of Artificial Intelligence, the first global standard on AI ethics. All 193 UN member states approved this framework, which requires AI systems to respect human rights, dignity, and diversity.

UNESCO now works with over 80 countries to implement these principles through national laws and policies.

International cooperation on AI is not optional—it is necessary. No single country can manage AI's global risks alone. Through the UN, UNESCO, G7, G20, and other forums, the world is building the foundations for responsible AI governance. However, stronger commitments, binding agreements, and inclusive participation are needed to ensure AI benefits everyone, not just a few powerful nations.

10. The Role of UNCoST

The United Nations Commission on Science and Technology for Development (UNCoST), commonly known as CSTD, is an important UN body that examines how science and technology can support development. It works under the Economic and Social Council (ECOSOC) and provides advice on new technologies, including artificial intelligence (AI). UNCTAD has hosted its secretariat since 1993. UNCoST does not directly develop AI systems or create binding laws. Instead, it brings governments, experts, universities, businesses, and civil society together to discuss the opportunities and risks of AI. It also helps countries share experiences and develop policies that make technology more useful for society and sustainable development.

One of UNCoST's main roles is to study how AI can support the Sustainable Development Goals. AI can help improve healthcare, education, agriculture, environmental protection, and public services. However, countries do not have equal access to digital infrastructure, data, skilled workers, or advanced technologies. UNCoST therefore focuses on reducing the digital divide and ensuring that developing countries can also benefit from AI. For the 2025–2026 period, UNCoST selected “Science, Technology and Innovation in the Age of AI” as a priority theme. In this context, the Commission examines how AI affects research, innovation, industry, and development policies. It also discusses ways to use AI while protecting people from risks such as discrimination, privacy violations, misinformation, and unequal access to technology. Data governance is another important part of UNCoST's work. AI systems need large amounts of data, but data must be collected and used safely and fairly. UNCoST supports discussions on trusted data flows, international cooperation, and rules that protect the public interest. These discussions are especially important because AI systems can affect people in many countries at the same time.

VIII. Questions to Ponder

- 1.** What role should education have about teaching students about the effective and dangerous sides of AI?
- 2.** How can countries stop fake AI videos and news from affecting elections?
- 3.** What restrictions should be implemented about social media companies point out whether an image, video, text or content when it is made by AI?
- 4.** Who should be held responsible if AI causes damage?
- 5.** Should AI systems be tested before making it available for open use? If so, why?
- 6.** How can governments protect children from harmful AI content?
- 7.** What role does partner countries have stop people from using AI for scams and cyberattacks?
- 8.** How can governments help people check if AI-generated information is reliable?
- 9.** How can underdeveloped countries get better access to AI education and technology?
- 10.** What can the United Nations do to promote the safe and fair use of AI?
- 11.** How can governments make sure that AI does not discriminate against certain groups?

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