

## ARTIFICIAL INTELLIGENCE - AN IMPERATIVE OF THE DIGITAL SOCIETY

*Mariana TACU,*  
*Moldova State University*

Artificial Intelligence (AI), ranging from basic algorithms to advanced systems, is reshaping our way of life and daily activities. It has a direct impact on mass media and communication, altering traditional paradigms and introducing new technological approaches. AI employs sophisticated algorithms to generate various types of media content, adapting to both traditional environments translated into the virtual realm and inherently digital media.

Within the European Union, particular attention is given to online security, connectivity, digital skills, digital businesses, and digital public services. The EU's cyber security strategy, along with data protection and governance laws, contributes to enhancing access to secure information and databases. The way we approach artificial intelligence will shape the future. To contribute to building a resilient Europe, citizens and institutions should benefit from the advantages offered by AI and feel secure.

**Keywords:** *virtual space, network society, security, transparency, responsibility, chatbot, software, artificial intelligence, metaverse, cybernetic organism.*

### INTELIGENȚA ARTIFICIALĂ - UN IMPERATIV AL SOCIETĂȚII DIGITALE

Inteligența artificială (IA), de la algoritmi de bază la sisteme avansate, transformă modul nostru de viață și activitățile zilnice. Aceasta are un impact direct asupra mass-media și a comunicării, schimbând paradigmele tradiționale și introducând noi abordări tehnologice. IA utilizează algoritmi avansați pentru a genera diverse tipuri de conținut media, adaptându-se atât mediilor tradiționale transpuse în mediul virtual, cât și mediilor nativ digitale.

În cadrul Uniunii Europene se acordă o atenție deosebită securității online, conectivității, competențelor digitale, afacerilor digitale și serviciilor publice digitale. Strategia de securitate cibernetică a UE, Legea privind datele și Legea privind guvernarea datelor contribuie la sporirea accesului la informații și la baze de date sigure. Modul în care abordăm inteligența artificială va defini viitorul. Pentru a contribui la crearea unei Europe reziliente, cetățenii și instituțiile ar trebui să beneficieze de avantajele oferite de IA și să se simtă în siguranță.

**Cuvinte-cheie:** *spațiu virtual, societate a rețelilor, securitate, transparență, responsabilitate, chatbot, software, inteligență artificială, metavers, organism cibernetic.*

#### Introduction

Artificial intelligence (AI), encompassing everything from basic algorithms to advanced systems capable of performing tasks that typically require human intelligence, is redefining the way we live, carry out daily activities, and learn.

Managing the digital society with the help of artificial intelligence must be built upon a strong ethical framework. It is necessary to establish a global dialogue on how to handle the social and ethical impact of artificial intelligence. AI has the potential to profoundly transform society, not only in terms of economy and technology but also in terms of politics, culture, and human identity.

Managing the digital society with AI should be based on three fundamental ethical pillars: *security, transparency, and responsibility* [1].

#### Context

The correlation between *artificial intelligence* and *security* is represented by technological progress in the following directions:

a) *Threat detection* – AI systems can be used to detect irregular patterns or suspicious activities in real-time, aiding in the prevention and countering of cyber security threats;

b) *Authentication and authorization* – AI based facial and vocal recognition technologies can strengthen authentication and authorization processes;

c) *Behavioral analysis* – analyzing traffic patterns can contribute to identifying unusual activities, indicating potential security threats;

d) *Data protection* – with the increasing amount of data processed by AI systems, safeguarding the confidentiality and integrity of this data becomes essential.

The Identity Theft Resource Center (ITRC), a nonprofit organization dedicated to providing resources and assistance to identity theft victims in the United States, launched a study in 2023. The study presents data confirming that each passing year brings more numerous and complex challenges for digital citizens. Millions of Americans (approximately 156) have suffered from the leakage of personal medical data [2].

Promoting *transparency* in the context of the progress of *artificial intelligence* „as a service” is a central topic for the international community of information services. Ethics in machine learning could indeed represent a real revolution for the field of cloud computing [3].

The demand for transparency in the case of AI has so far focused on processes, how AI systems are designed and developed, as well as the context in which they operate. People should have the ability to know whether a particular content they encounter was created by a human or a machine.

Without this minimum level of transparency, the consequences on culture could be detrimental. Yuval Noah Harari suggests that a culture of artificial content could jeopardize democracy, and Daniel Dennett asserts that the uncontrolled proliferation of artificial content „will undermine the trust upon which society relies”.

It’s important to distinguish between transparency regulating direct interactions with AI (such as in conversations with chatbots) and transparency regarding AI-generated content.

There are two approaches: a scheme for tracking the origin of content or a detection mechanism that is limited to indicating whether certain content is of human or artificial origin. Even in the latter, less complex case, there are technical challenges to overcome. As generative models improve, it will become increasingly difficult to distinguish artificial content from human content, unless content generators are equipped with devices to support detection. Many generators already introduce „watermarks” into the content they produce-invisible signs that reveal the artificial nature. Another option is „logging”, a record of all content produced by a generative model: thus, a detector can be implemented as a „plagiarism detector” that consults this record [4].

A significant challenge lies in the question of finding the right balance between responsible governance and intelligent risk management in the context of developing artificial intelligence technologies that have the potential to unlock human progress. The complexity, unpredictability, and vulnerability are all characteristics of machine learning systems that disrupt current models of accountability, especially those based on the criterion of assigning blame.

The difficulty in providing an answer stems from the challenging understanding of the processes by which a particular „decision” is made and, consequently, a specific „behavior” is adopted [5]. Developers of AI systems have the responsibility to create algorithms with as much transparency as possible, focusing on:

- Ensuring AI systems do not perpetuate or amplify discrimination;
- Implementing high standards of security to avoid unauthorized exposure of sensitive data;
- Anticipating and managing the social impact of automation on employment;
- Considering sustainability aspects and the environmental impact. Choosing ecologically responsible development practices contributes to a sustainable approach to technology;
- Engaging in public dialogue and social debate regarding the impact of this technology.

This ensures that diverse perspectives are taken into account in the development and implementation process through active public discourse.

### **Generative artificial intelligence and the media industry**

Artificial Intelligence directly influences the operations of media and communication, altering classical paradigms and introducing modern ones that are technologically representative. All of these changes occur within a complex process that cannot be halted but must be managed with caution. Thus, artificial intelligence represents an opportunity, grounded in strict rules, in the application phase.

Artificial intelligence utilizes advanced algorithms to generate text, audio, static or video images, all the elements necessary for creating an integrated media product. This is applicable to both traditional media translated into the virtual space and native digital media and communication environments.

In 2021, OpenAI DALL-E was launched, a deep learning model capable of generating realistic images based on text prompts. It was the first widely recognized generative artificial intelligence tool with significant commercial use. Since then, hundreds of generative artificial intelligence tools have been launched, applicable in various fields, including the media industry.

The first extensive discussions about AI took place in 2014 with the emergence of Generative Adversarial Networks (GANs). GANs were the first models capable of generating realistic images of human beings who never existed. Following this, Variational Autoencoders (VAE), diffusion models, and transformers emerged, becoming the backbone of generative AI [6].

The new frontiers of human experiences in the virtual space are currently represented by Chat GPT (the chatbot launched by OpenAI in November 2022, a software application designed to mimic human-like conversation based on user input). Just five days after its launch, ChatGPT surpassed one million users.

This application serves as a natural language processing tool, based on the GPT-3.5 architecture, belonging to the category of Large Language Models (LLM). It relies on deep learning to generate coherent texts. In the *user-application* interaction process, particularly in the case of ChatGPT, emphasis is placed on creativity, collaboration, and trust.

On the one hand, ChatGPT is considered a competitor for representatives in various professional fields, including journalism. On the other hand, it is treated as a practical tool, efficient in everyday activities, targeting employees from the multitasking generation. The software application generates real-time content on various subjects, however, it needs to be verified to ensure the accuracy of facts and details.

Currently, OpenAI's Chatbot is no longer the sole artificial intelligence model on the market, although it remains the most widespread and well-trained. Almost every month, major technology companies release AI services that compete with ChatGPT. In September 2023, *Mistral*, a French startup valued at around 2 billion dollars, unveiled one of the most advanced open-source language models, technology that powers AI chatbots. Later, in November, Elon Musk introduced a surprisingly useful chatbot named Grok. Additionally, Google launched its highly anticipated version of the Gemini model. This represents advanced technology with the ability to process various types of data, including video clips, audio files, and text-based information. The Gemini model offers users three distinct packages:

1. *Gemini Ultra* – equipped with the widest range of functionalities;
2. *Gemini Pro* – adapted to handle a broad variety of tasks;
3. *Gemini Nano* – designed for mobile devices [7].

Studio or Google Cloud Vertex. Additionally, through the Android system, they can create software using Gemini Nano. Gemini utilizes information from 57 domains, including mathematics, physics, history, law, medicine, and ethics. This model is capable of understanding the subtleties and reasoning associated with complex subjects.

In the context of technological progress and the information society, we can also discuss the concept of the metaverse (a three-dimensional virtual environment similar to a real world where users can interact with each other, use objects, organize events, work, conduct transactions, and navigate through various environments in real-time). The metaverse represents an immersive, persistent, interactive, and interoperable ecosystem composed of multiple interconnected virtual worlds.

The term „metaverse” belongs to writer Neal Stephenson, who first wrote about this type of reality in 1992 in the novel „Snow Crash”. It has gained popularity in the last two years, thanks to Mark Zuckerberg, including the renaming of his company Facebook to Meta and investing tens of billions of dollars in this concept.

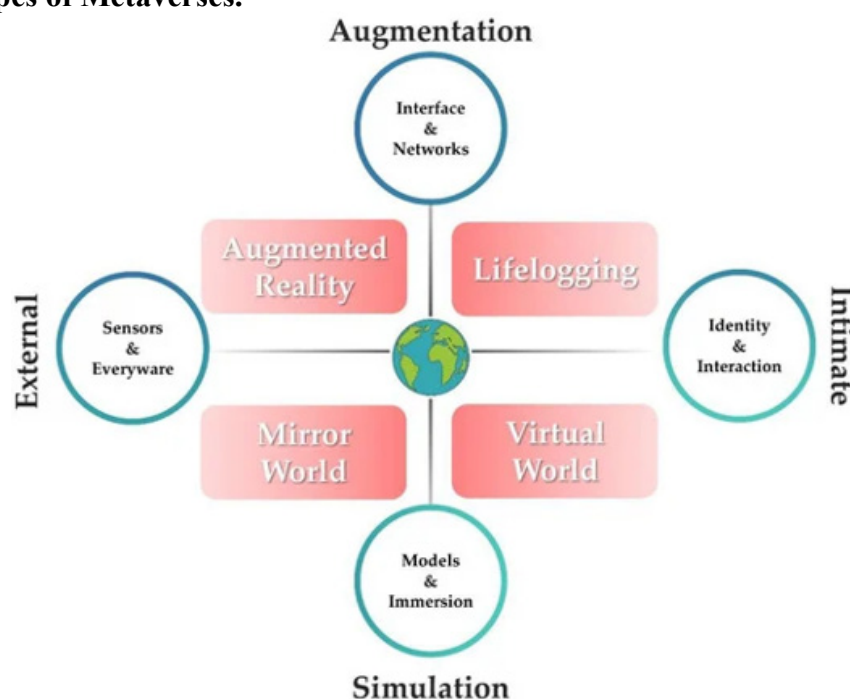
Among the characteristics of the metaverse, which can also be related to the media-communication domain, are:

- *Guarantee of ownership* – ensuring that the user owns digital assets;
- *Modularity* – marked by the ability to create assets;

- *Accessibility* – allowing users to become part of the metaverse by participating in specific events and activities in a synchronous manner;
- *Economic functionality* – capable of enabling individuals and companies to create, own, invest, sell, and be rewarded for a wide range of services that produce value recognized by professional communities;
- *Immersiveness* – from the perspective of experiences that blend the real and virtual worlds, providing creative tools.

Schematically, the metaverse is based on a horizontal axis defining the relationship between *technology and the user*, and a vertical axis represented by the relationship between *technology and reality*.

**Fig. 1. Four Types of Metaverses.**



Source: *Exploration of Educational Possibilities by Four Metaverse Types in Physical Education*. Available: <https://www.mdpi.com/2227-7080/10/5/104> [Accessed on 26.12.2023].

The interaction between humans and machines is finding new patterns of socialization in virtual space, some of which are described through the term „cyborg” (cybernetic organism). Self-organized groups initiate an open dialogue, and in practice, this interaction is acknowledged as a „third form of human presence”, emerging between the „individual” and the „virtual community”.

### **Artificial intelligence in the media sector: opportunities and challenges**

The media sector is directly influenced by the development of artificial intelligence. AI provides media companies with new opportunities for enhancing content, production, distribution, and marketing. AI can be used in the process of creating personalized content, contributing to improved user engagement and reducing the risk of misinformation. Both internationally and nationally, media institutions place a special emphasis on their activity and presence in the virtual space, as well as on direct connection with social networks, which increase visibility and, thanks to certain algorithms, suggest articles to users based on their browsing history or previous interactions with specific types of content.

In terms of efficiency, artificial intelligence can be used to automate repetitive activities such as information search, content management, and comment moderation. For example, a television station can use artificial intelligence to analyze large volumes of data, identify the most popular programs, and recommend them to specific audience categories or users. In a competitive context, stored data serves as accurate indica-

tors of trends and opportunities.

Among the risks associated with the use of artificial intelligence are:

- Job loss;
- Difficulty in distinguishing between content created by humans and that created by AI;
- Protection of copyright and intellectual property rights.

To manage these risks, an appropriate regulatory framework and responsible use of AI are necessary. Recently, the European Union (EU) adopted a new directive on the protection of intellectual property rights in the digital market, including specific provisions regarding the use of artificial intelligence.

The way we approach artificial intelligence will define the world we live in the future. To contribute to creating a resilient Europe in the digital decade, citizens and institutions should benefit from the advantages offered by AI and feel secure.

The European strategy on AI aims to transform the EU into a global center for AI and ensure that AI is human-centered and trustworthy.

In April 2021, the Commission presented its AI package, including its communication on promoting a European approach to AI, a revision of the Coordinated Plan on AI (with EU member states), its proposal for the AI regulatory framework, and the impact assessment [8].

In January 2024, the Commission adopted the AI@EC Communication, outlining strategies to enhance the Commission's own capabilities in the field of artificial intelligence. Simultaneously, it emphasized the importance of the safe, transparent, and human-centric use of AI technologies. The guidelines, included in the communication, encourage the Commission to internally adapt, innovate, and proactively adopt AI to set an example of best practices. In this regard, the Commission opts for:

- Introducing multi-purpose conversation platforms for human-like dialogues using generative artificial intelligence within the Commission's perimeter, capable of handling unclassified sensitive information.
- Providing a range of generic generative AI services to enable the exploitation of the Commission's knowledge bases in various fields.

Promoting excellence in AI will strengthen Europe's potential to compete globally, with the EU focusing on:

- Facilitating the development and adoption of artificial intelligence within the EU.
- Consolidating the EU's position as a conducive environment for the flourishing of artificial intelligence, from the laboratory stage to market entry.
- Ensuring that artificial intelligence operates for the benefit of people and becomes a positive force in society.
- Building a strategic leadership position in sectors with significant impact.

The latest trends in the development of generative artificial intelligence are based on extensive language models, fundamentally changing the way AI can be implemented to support business processes. To stimulate current initiatives and explore additional opportunities, the Commission will place a particular emphasis on investigating the possibility of developing generic AI services at the corporate level [9].

Outside the European regulatory framework, some measures can be considered to mitigate the risks of using artificial intelligence in the field of mass media. These include transparency, standardized formats, and education.

Charlie Becket, co-author of the study „New powers, new responsibilities: A global survey of journalism and artificial intelligence”, argues that journalism worldwide is undergoing a new period of exciting and frightening technological changes. The study indicates that generative AI is both a potential threat to media integrity and an incredible opportunity to make journalism more efficient. Published as part of the „Journalism AI” project at the London School of Economics and supported by Google News, this study aimed to survey professionals from over 100 publications in 46 countries between April and July 2023. Approximately three-quarters (73%) of respondents appreciated that generative artificial intelligence, such as ChatGPT or Google Bard, capable of generating text, provides new opportunities for journalism by improving effectiveness, productivity, and creativity. Moreover, 85% of them had experienced the use of AI in drafting short news pieces or headlines. However, over 60% expressed concerns about the ethical implications of AI, including its impact on editorial quality, accuracy, balance, and transparency [10].



## Conclusions

Conversational artificial intelligence has undeniably marked a new frontier in human experiences within the context of technological progress. ChatGPT, GPT-3, and other similar programs will significantly influence the future across various fields, particularly in creative endeavors. Professionals in the media industry must learn to harness artificial intelligence to enhance efficiency, knowledge, and productivity.

The European Union places a particular emphasis on safety in the virtual space, as well as on connectivity, digital skills, digital businesses, and digital public services. The EU's cyber security strategy, data law, and data governance law enhance access to secure information and databases.

Artificial intelligence exhibits human-like capabilities such as reasoning, learning, planning, and creativity. AI enables systems to understand users' environments and preferences, allowing them to adapt their behavior by analyzing the effects of previous actions and operating autonomously.

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## Date about author:

**Mariana TACU**, PhD, Associate Professor, Faculty of Journalism and Communication Sciences, Moldova State University.

**ORCID:** 0000-0003-4930-239

**E-mail:** mariana.tacu@usm.md

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