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## Artificial Intelligence interference with Digital Media The immediate impact on E- learning

تداخل الذكاء الاصطناعي مع الإعلام الرقمي  
التأثير الحتمي على التعلم الإلكتروني

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### Abstract

This era has witnessed major disruptions to the media industry as a result of technological revolutions . As a matter of fact new opportunities and challenges continue to arise, most recently as a result of the rapid advance and adoption of artificial intelligence technologies. Mainly by the broad adoption of Information and communication Technologies may introduce new opportunities for diversifying digital media offerings .

Through this paper study we shed light on the multi-interference between A I and D M and their focal impact on E-learning .

**Keywords:** Artificial Intelligence , Digital Media , ICTs , E-learning.

### ملخص:

شهد عصرنا هذا اضطرابات كبيرة في صناعة الإعلام نتيجة للثورات التكنولوجية ، وفي الواقع ، تستمر الفرص والتحديات الجديدة في الظهور ، وكان آخرها نتيجة للتقدم السريع واعتماد تقنيات الذكاء الاصطناعي. بشكل رئيسي من خلال التبني الواسع لتقنيات المعلومات والاتصالات قد يقدم فرصًا جديدة لتنوع عروض الإعلام الرقمي.

قمنا من خلال هذه الورقة بإلقاء الضوء على التداخل المتعدد بين الذكاء الاصطناعي A I والإعلام الرقمي D M وتأثيرهما الكبير على التعلم الإلكتروني.

**كلمات مفتاحية:** الذكاء الاصطناعي ، الإعلام الرقمي ، تكنولوجيا المعلومات والاتصالات ، التعلم الإلكتروني.

## 1. Introduction

New technologies philosophy stresses the fact that computer -within modern Internet know-hows - have always been clearly incorporated into specialized intelligence as an enormous part of its huge results from the greater use of information and communication technologies (ICT) as regarded crucial tools. This is why the 21st century dawn witnessed ICT skills rising a major function in knowledge generation, information retrieval, extraction and processing. Thus, as well as in the specialized human thinking , processing and changing requirements imposed by ongoing technological progress ; Meanwhile The human civilization is going through the knowledge era, based on the Information and Communication Technology (I C T) manipulation, that turned this vast world into a small scary electronic village (McLuhan, 1967) , whereas the twenty-first century data indicates the huge wild flow of information in all fields despite its informatics pillars which convey large inflation in output , thus the vital call for sharing large information amounts and the need to broadcast it often regardless of the extended spaces.

By these scientific and technological developments pattern, there comes a witnessed duty necessity for official and private ICT bodies, in various scientific activity and academic aspects of interests and those of scientific research, to initiate and formulate immediate development policies plans toward the advancing sophisticated new IT systems against the cyber crime riskiest dangers, threatening both national and global information networks.

A requiring task of high technical competencies and expertise preparation reveals as much as specialized in ICT networks systems ; to secure a solide access to footholds in this technological revolution in applied fields, and provide advanced fast privacy information services to its employees , on the basis of overall quality and electronic form : electronic space imposes a new sophisticated level of practical security system facing the endangering threat of electronic crime.

The last two decades have witnessed major disruptions to the traditional media industry as a result of technological breakthroughs. New opportunities and challenges continue to arise, most recently as a result of the rapid advance and adoption of artificial intelligence technologies. On the one hand, the broad adoption of these technologies may introduce new opportunities for diversifying media offerings, fighting disinformation, and advancing data-driven journalism. On the other hand, techniques such as algorithmic content selection and user personalization can introduce risks and societal threats.

The challenge of balancing these opportunities and benefits against their potential for negative impacts underscores the need for more research in responsible media technology. In this paper, we first describe the major challenges—both for societies and the media industry—that come with modern media technology. We then outline various places in the media production and dissemination chain, where research gaps exist, where better technical approaches are needed, and where technology must be designed in a way that can effectively support responsible editorial processes and principles. We argue that a comprehensive approach to research in responsible media technology, leveraging an

interdisciplinary approach and a close cooperation between the media industry and academic institutions, is urgently needed.

Artificial Intelligence or sometimes called machine intelligence, is intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and other animals. Some of the activities that it is designed to do is speech recognition, learning, planning and problem solving. (HOWIE BAUM, 2017) Since Robotics is the field concerned with the connection of perception to action, Artificial Intelligence must have a central role in Robotics if the connection is to be intelligent.

### **Study Issue (problematic)**

From this open opportunity, we may address the following crucial issue of this article :

**What does Artificial intelligence have to do with Digital Media , and how do they work to interfere on the E- learning ?**

## **2. Artificial Intelligence: definition and mutation**

### **a. Definition**

John McCarthy ; the father of Artificial Intelligence, stated “The science and engineering of making intelligent machines, especially intelligent computer programs”. Talking about A I , then he affirmed that It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable.

Artificial Intelligence is a way of making a computer, a computer-controlled robot, or a software think intelligently, in the similar manner the intelligent humans think. AI is accomplished by studying how human brain thinks, and how humans learn, decide, and work while trying to solve a problem, and then using the outcomes of this study as a basis of developing intelligent software and systems.( John McCarthy ,

AI is different from machine learning since Artificial intelligence is a technology that a computer uses to perform tasks on its own by “thinking” like a human. The goal is to simulate natural intelligence to solve complex problems. Good examples of AI are Apple Siri, Google Assistant, Tesla self-driving cars, Amazon Alexa, etc.(Nimesh Shah, 2023 (

Machine learning is a computer system that automatically learns from past data and doesn't have to be programmed. It is a subset of AI and data science. The goal is to learn from data on specific tasks to maximise the performance on that task. Good examples of machine learning are Google search engines, Twitter sentiment analysis, stock prediction etc.(Nimesh Shah, 2023 (

Some applications of AI has been dominant in various fields such as:

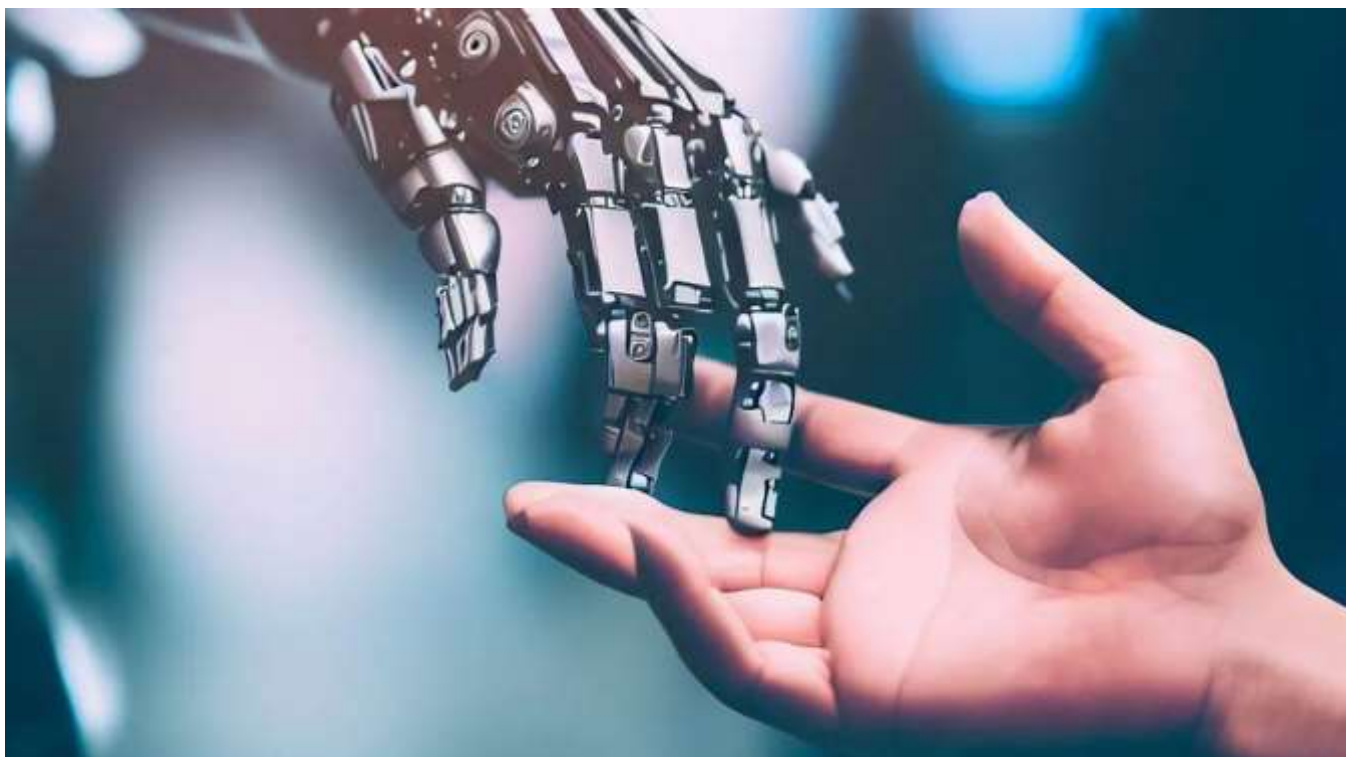
- Gaming AI plays crucial role in strategic games such as chess, poker, tic-tac-toe, etc., where machine can think of large number of possible positions based on heuristic knowledge .

- Natural Language Processing It is possible to interact with the computer that understands natural language spoken by humans .

- Expert Systems : There are some applications which integrate machine, software, and special information to impart reasoning and advising. As a matter of fact they provide explanation and advice to the users .

- Vision Systems : These systems have mission to understand, interpret, and comprehend visual input on the computer .

**Fig.1. Artificial Intelligence for human purpose**



**Source** : <https://www.zdnet.com/article/what-is-ai-heres-everything-you-need-to-know-about-artificial-intelligence/>

For example, A spying aeroplane takes photographs which are used to figure out spatial information or map of the areas. o Doctors use clinical expert system to diagnose the patient. o Police use computer software that can recognize the face of criminal with the stored portrait made by forensic artist .

- Speech Recognition Some intelligent systems are capable of hearing and comprehending the language in terms of sentences and their meanings while a human talks

to it. It can handle different accents, slang words, noise in the background, change in human's noise due to cold, etc .

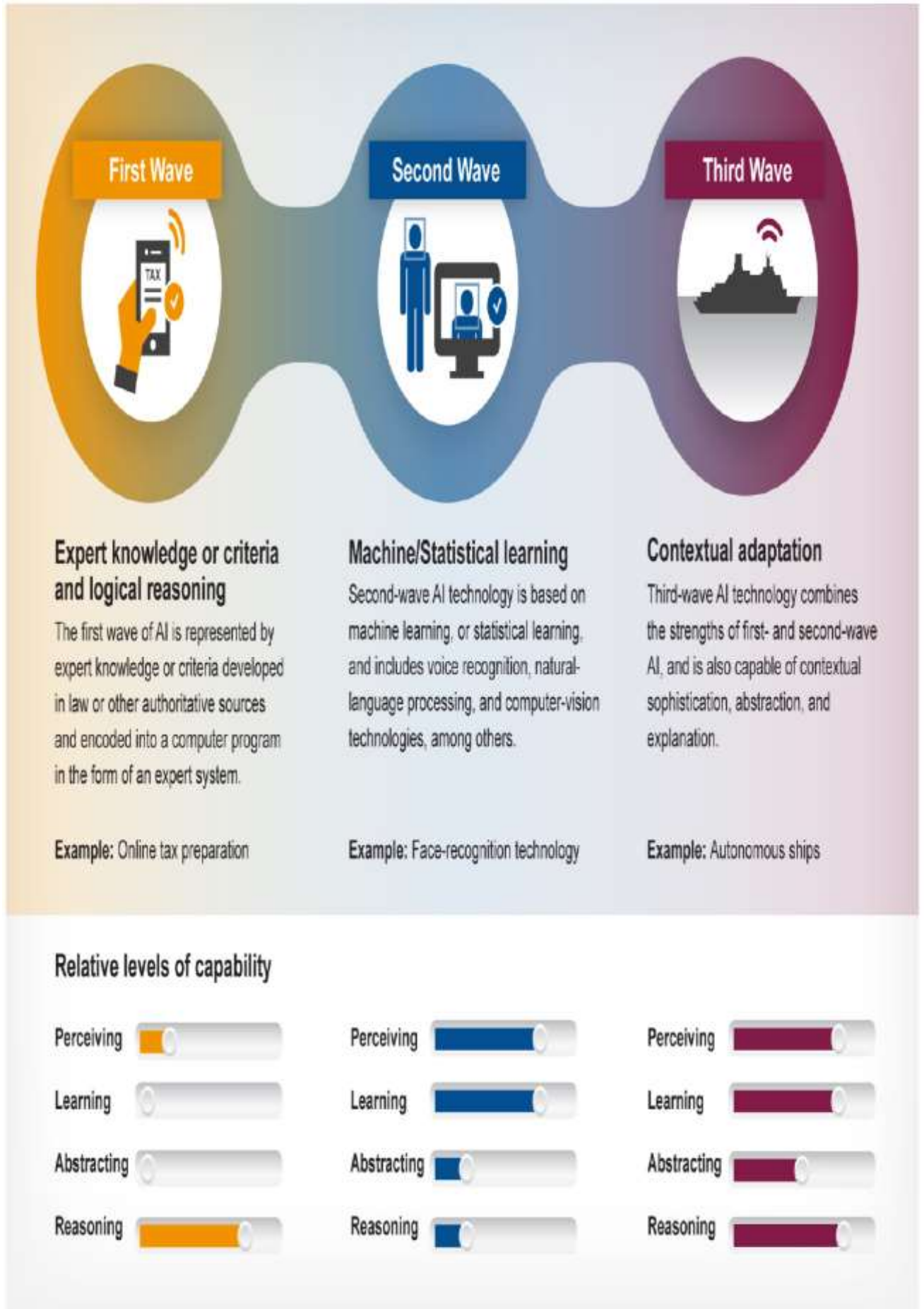
- Handwriting Recognition** The handwriting recognition software reads the text written on paper by a pen or on screen by a stylus. It can recognize the shapes of the letters and convert it into editable text .

- **Intelligent Robots** are able to perform the tasks given by a human. They have sensors to detect physical data from the real world such as light, heat, temperature, movement, sound, bump, and pressure. They have efficient processors, multiple sensors and huge memory, to exhibit intelligence. In addition, they are capable of learning from their mistakes and they can adapt to the new environment.

#### **b. AI triple waves processing mutation**

Accessible introductions to some of the key techniques that come under the AI banner are grouped into three sections, which gives a sense of the chronology of the development of different approaches .

**Fig.2. The AI three waves**



Source: Defense Advanced Research Projects Agency (DARPA) information; Art Explosion (art). | GAO-18-142SP

The first wave of early AI techniques is known as 'symbolic AI' or expert systems. Here, human experts create precise rule-based procedures – known as 'algorithms' – that a computer can follow, step by step, to decide how to respond intelligently to a given situation. Fuzzy logic is a variant of the approach that allows for different levels of confidence about a situation, which is useful for capturing intuitive knowledge, so that the algorithm can make good decisions in the face of wide-ranging and uncertain variables that interact with each other. Symbolic AI is at its best in constrained environments which do not change much over time, where the rules are strict and the variables are unambiguous and quantifiable. While these methods can appear dated, they remain very relevant and are still successfully applied in several domains, earning the endearing nickname 'good old-fashioned AI.'

The second wave of AI comprises more recent 'data-driven' approaches which have developed rapidly over the last two decades and are largely responsible for the current AI resurgence. These automate the learning process of algorithms, bypassing the human experts of first wave AI. Artificial neural networks (ANNs) are inspired by the functionality of the brain. Inputs are translated into signals which are passed through a network of artificial neurons to generate outputs that are interpreted as responses to the inputs. Adding more neurons and layers allow ANNs to tackle more complex problems. Deep learning simply refers to ANNs with several layers. Machine learning (ML) refers to the transformation of the network so that these outputs are considered useful – or intelligent – responses to the inputs. ML algorithms can automate this learning process by making gradual improvements to individual ANNs, or by applying evolutionary principles to yield gradual improvements in large populations of ANNs. STOA | Panel for the Future of Science and Technology IV

The third wave of AI refers to speculative possible future waves of AI. While first and second wave techniques are described as 'weak' or 'narrow' AI in the sense that they can behave intelligently in specific tasks, 'strong' or 'general' AI refers to algorithms that can exhibit intelligence in a wide range of contexts and problem spaces. Such artificial general intelligence (AGI) is not possible with current technology and would require paradigm shifting advancement. Some potential approaches have been considered, including advanced evolutionary methods, quantum computing and brain emulation. Other forms of speculative future AI such as self-explanatory and contextual AI can seem modest in their ambitions, but their potential impact – and barriers to implementation – should not be underestimated. (artificial\_intelligence\_tutorial.pdf)

Quantum computing: Single bits of data on normal computers exist in a single state, either 0 or 1. Single bits in a quantum computer, known as 'qubits' can exist in both states at the same time. If each qubit can simultaneously be both 0 and 1, then four qubits together could simultaneously be in 16 different states (0000, 0001, 0010, etc.). Small increases to the number of qubits lead to massive increases ( $2^n$ ) in the number of simultaneous states. So 50 qubits together can be in over a trillion different states at the same time. Quantum computing works by harnessing this simultaneity to find solutions to complex problems very quickly.

### 3. Digital Media shift

Digital media refers to the media that are encoded in machine readable formats. Digital media is one which can be created, viewed, modified, communicated, preserved on digital electronics device which include software, digital videos, images, web pages, databases, digital audio and E books. ( Abraham Das ,May 2020(

Digital media, also known as online, is a contemporary where editorial content is distributed via the Internet, as opposed to publishing via print or broadcast. What constitutes digital media is debated by scholars (Franklin, Bob (2013.(

However, the primary product of journalism, which is news and features on current affairs, is presented solely or in combination as text, audio, video, or some interactive forms like newsgames, and disseminated through digital media technology.

#### a. D M main types

There are huge benches of types of online journalism needed to be familiar with as an online journalist:

-The online newspaper websites : With the newspapers entering the extinction phase, the newspaper companies are rearranging. These companies are embracing technology and digitization. Instead of focusing on printing, they are launching websites with the same formatting of their newspapers. Many newspaper media companies such as New York Times and Wall Street Journal have a news website.

-Local news sites: this sites tell the story of a community. It keeps the locals and world updated to the prevailing issues in that society. In most cases, these websites relay information using the local languages. For instance, if the majority of the community are Mexicans, the website will use a Mexican language. If they are Indians, their language will be the best option .

-Citizen journalism websites: These devices allow every citizen to capture and publish any information that come to their knowledge. In a better term, this is citizen journalism. To allow people exercise their passion, several websites have come up. These sites allow citizens to post information and news or edit the current one. People can post videos and pictures about an event or an issue in their locale. However, these sites failure in ethical measures. Considering that many publishers are not journalism graduates, they might share wanting information. For instance, it is easy to find violent related images or news with child abuse. This type of information raises ethical and credibility issues.

-Independent news websites: These sites covers information for a particular area. They focus on presenting hardcore investigative information. Others will relay information the property bubble of 2008. While others will expose the graft and corruption practices in various government levels. As an online journalist in love with investigations, consider this as niche. This way will win a massive following as well as critics from audience .



-Blogs : A blog is a website where post opinions and commentaries on various issues. It is the same as opinion page on a newspaper. As an online journalist, having a blog is a good idea. The blog acts as online portfolio. Companies and online news agencies will use the information presented as check of what can do. Hence, this will not need a resume to proof online journalism qualifications.

Thus , web journalism is characterized by set of advantages , so the purpose of using E-media can be for many reasons , as it helps to attract indefinite customers numbers ; the fact businesses usually use the “check-in” method where if checking into their store this will bounce something in return : efficient way to communicate to one another, either by the use of media devices and networks or social media sources such as Television or the Internet.

Moreover media has numerous benefits:

-Firstly people used to use radio for the news but as the generation changes the media generation also changes to television and other electronic devices.

-Elder citizen and children get more knowledge through this media.

-The message can be communicated to many people, in no time .

-Also through this electronic media you can get to see many cultural events going in world.

-It uses a range of audio, video, text and graphics in one medium, which makes it the most preferred medium around the world.

-Media like television is a good source for the people to get updated through the electronic media.

-The content delivered through it, can be recorded or archived for future use .

-Electronic media makes people aware of world-wide things.

-Live programming is another important feature of the electronic media, through which real-time broadcast of different events is possible.

-Greater opportunities you get through this media sitting at your place, this is an advantage of media.

-Many areas people get educated through the media were they get to learn many things form media about the politics, outside environment, etc.

- Many people get a chance to do their courier.

#### **b. DM impact on the society**

Digital media is digitized content that can be transmitted over the internet or computer networks. This can include text, audio, video, and graphics. This means that news from a TV network, newspaper, magazine, etc. that is presented on a Web site or blog can fall into this category. Most digital media are based on translating analog data into digital data. The Internet began to grow when text was put onto the Internet instead of stored on papers as it was previously. Soon after text was put onto computers images followed, then came audio and video onto the Internet. Digital media has come a long way in the few short years to become as we know it today and it continues to grow. ( Abraham Das ,May 2020)

The main purpose of digital media technology is to cultivate modern art design talents integrating technical quality and artistic quality for the society. Compared with the traditional digital media art major, it pays more attention to the cultivation of technical quality and can guide the public to continuously adapt to the creation of new media art, network multimedia production, and the production of demonstration animations in the real estate industry. The professional task of digital media technology is to convert digital signals into media signals and convert symbols that computers can understand into things that people can understand.( Pu Zhao, 2023)

Digital media's significant impact on society and culture is broader and complex. Digital media combined with internet and personal computing has caused innovation in publishing, journalism, public relations, entertainment, education, commerce and politics. New challenges of digital media are revolving round to copyright, intellectual property laws and its legality. The so called "Information age" aiming at paperless society also resulted in censorship doubts, digital divide, digital Dark Age in which older media becomes outdated to the new or upgraded information system. ( Abraham Das ,May 2020)

#### **4. The A.I mutation via D M**

The advancement of AI technology has promoted the development speed of digital multimedia and brought a new experience to the digital media experience effect. Aiming to use AI methods to enhance the D M design experience . With AI's ability to organise large amounts of unstructured data generated by social media, for such an extent marketers will not only be able to leverage artificial intelligence for content and web development but also consumer understanding and targeting. (Nimesh Shah, 2023 (

With the advancement of society and the increase of computer, network and digital media technology, digital media technology has become an indispensable part of the modern service industry. The application of digital media technology in artificial intelligence has enabled the development of all aspects of life, such as the company's internal training, system development, update and maintenance from "quality" to "quantity". In other words its introduces the application analysis of artificial intelligence in digital media technology , same application analysis of artificial intelligence in digital media technology and proposes a visual media management model. Use artistic innovation methods to analyze and analyze the application of digital media technology in artificial intelligence to improve the

standardization and accuracy of digital media. Subsequently the experimental results show that the application of visual media and the technology of artistic innovation combined with artificial intelligence technology have increased the innovation rate of digital media by 23%, and improved the interactive synthesis of images and video materials. (Jin Cai , 2022)

#### **a. Programming With and Without AI**

Since AI is going to do is revolutionise (because the word change seems too mild) most of the facets of our life. It has been around for a while. Think those friend recommendations on Facebook, Amazon's related products recommendations, Netflix's prompts of new, related series and those chatbots (Eva, Ava, Ewa) on most corporate sites today.

It has been learning and hence, is primitive in its manifestation. This changed with ChatGPT's entry. What blew us away was the quality of results it could regurgitate. It was fed with datasets until September 2021 and the results were astounding. The paid version might even be more up-to-date.

The programming without and with AI is different in following ways :

- A computer program without AI can answer the specific questions it is meant to solve .
- A computer program with AI can answer the generic questions it is meant to solve.
- Modification in the program leads to change in its structure .
- AI programs can absorb new modifications by putting highly independent pieces of information together .
- Hence you can modify even a minute piece of information of program without affecting its structure .
- Modification is not quick and easy. It may lead to affecting the program adversely. Quick and Easy program modification.

As a matter of fact A I is neither a magic wand to solve business program nor the demon that will take away jobs. It created a flutter because of its innate ability to structure the data around us and make sense of it. We generate petabytes of data every year but it's all unorganised and unstructured. AI will connect the dots and help formulate a clear, workable plan of action. (Nimesh Shah, 2023)

#### **b. A I through Digital transformation**

D.T defined the adoption of advanced technologies and the rise of innovations as companies and individuals reorganize their operations to be digital, multimodal, and intelligence-driven. According to Haileleul, it is a catalyst for engendering agility, and has become crucial for organizations to stay competitive, achieve successes, and even survive

Starting 2017, artificial intelligence (AI) has been everywhere! New technologies driven by AI have emerged and most new devices, cameras and sensors are now equipped with AI features .

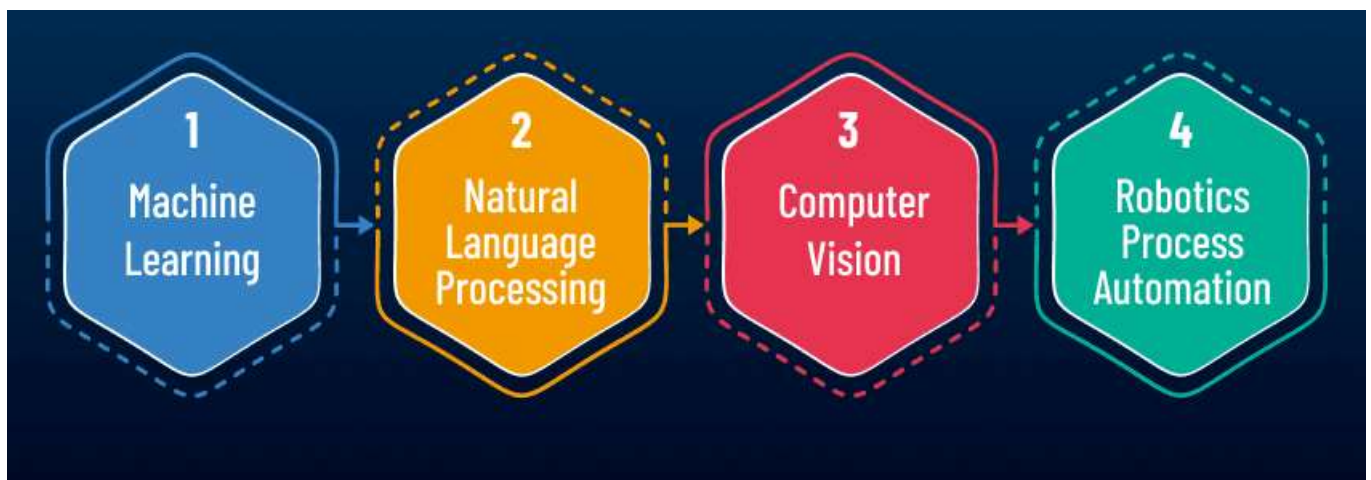
AI existed a long time ago in R&D, laboratories and business development master plans of the largest hi-tech companies; otherwise, it wouldn't have reached its current level of advancement .

However, it was only recently that it became a recurrent topic. This technology has become a marketing tool used by many companies and has contributed to boosting the conference businesses by creating hype over topics such as blockchain and 5G.

Going deeper into this technology, here is an example of what the AI world is bringing: Artificial Intelligence is allowing computers to be smarter and predict human behavior. In the case of autonomous cars, before AI, smart sensors weren't able to recognize which obstacle to avoid in case of an accident .

Now, thanks to AI, cars are programmed to avoid hitting pedestrians when faced with a choice of either hitting pedestrians or another car. Artificial intelligence is key to bring technology to the next smart level. Labeled as the 'great transformer', AI is considered to be a key enabler of this transformation .

**Figure 03 :AI technologies for digital transformation**



**Source :** <https://www.peerbits.com/blog/accelerating-digital-transformation-with-ai.html>

Artificial intelligence is meant to change systems, behaviors and work patterns within organizations. These systems use things like aggregated data, usage analysis, pattern recognition, and predictive analytics to deliver intuitive insights or make choices, improving efficiency and even shifting business models across all sectors .

It is also expected to ultimately boost overall economic growth, and create jobs not yet imagined , and With the advancement of smart living, smart devices and data on the worldwide web, there is always something going on behind the scenes at labs and R&D

centers. Without such workshops of technology, smart living and our cyber life would be at risk; it wouldn't move or even exist.

Besides the daily exchange of data via billions of emails, data usage is increasing because of smart airports, smart medical systems, smart education, smart traffic management, smart household equipment, smart meters, smart sensors, etc.

This is generating massive amounts of traffic on our networks and it will continue to increase to reach Z bytes of data per minute, with the expectation to connect 15k new devices every minute (currently, it is at 5K per minute). This data should be managed, protected and secured, and it seems that R& D centers are focusing on artificial intelligence to teach computers and smart devices to understand their environment, and to be smart and protected from malware and hackers.

Just recently at Yahoo, 500 million emails accounts were hacked. This happened to a giant Yahoo, not just an individual PC, which shows how important the issue is.

Artificial intelligence promotes cybersecurity by using software that predicts, not just prevents or detects.(<https://www.telecomreviewafrica.com/>).

How can you control hundreds of thousands of security cameras in a city without artificial intelligence? Or smart software? Cameras such as those in the city of London need thousands of staff 24 hours a day to check the content generated. Only artificial intelligence software can detect the malicious incidents on these cameras. This is but one example.

The future of smart cities is also based on secure technology. Security means creating enough smart solutions and features that enable us to detect an unlimited amount of information at top speed that can treat the huge amount of data transactions.

## **5. E-learning : resulting to a DIGITAL standard system**

### **a. E- leaning assets**

When "Building Asynchronous and Synchronous Teaching-Learning Environments: Exploring a Course/Classroom Management System Solution" the makers described a process at the State University of New York (SUNY) of evaluating products and developing an overall strategy for technology-based course development and management in teaching-learning.( William D. Graziadei, Sharon Gallagher, Ronald N. Brown, Joseph Sasiadek

E-learning includes all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process .(Tavangarian D, Leybold M, Nolting K, Roser M 2004(

The term will still most likely be utilized to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue regarding devices and curriculum. Abbreviations like CBT (Computer-Based Training), IBT (Internet-

Based Training) or WBT (Web-Based Training) have been used as synonyms to e-learning that is also the computer and network-enabled transfer of skills and knowledge.

E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio.

It is commonly thought that new technologies can strongly help in education. In young ages especially, children can use the huge interactivity of new media, and develop their skills, knowledge, perception of the world, under their parents monitoring, of course. Many proponents of e-learning believe that everyone must be equipped with basic knowledge in technology, as well as use it as a medium to reach a particular goal.

#### **b. Preparing the digital generation through evolving e-learning**

Educational institutions In the past provided little choice for students in terms of the method and manner in which programs have been delivered. Students have typically been forced to accept what has been delivered and institutions have tended to be quite staid and traditional in terms of the delivery of their programs .

The digital age and technology are omnipresent in all aspects of our daily life, and education at schools and universities are moving at the same speed , so for educational institutions adequately are preparing the next digital generation , so they are changing curricula to include high tech courses in all majors, from engineering to medicine and even journalism.

The main universities in the USA, Canada and UK are already focusing on this and are integrating artificial intelligence into their systems. One school of thought is that artificial intelligence should not be suggested as an elective course, but rather as a requirement, whatever major students choose. Furthermore, quantum computing is changing companies, industries and governments - that is why it should be included in any educational program.( <https://www.telecomreviewafrica.com/>).

Cybersecurity is a must-have for everyone. We are all online and this means our most important data is too. Learning to protect our data privacy should begin along with the most basic learning courses. Subsequently preparing our digital generation is important regardless of the field of study or objectives of the workplace. It would be best to apply this approach now, to prepare the current generation moving forward.( Jacobsen and Kremer 2000)

#### **c. Informative societies role through ICTs**

ICT has become within a very short time, one of the basic building blocks of modern society , and one of the many challenges facing developing countries today is preparing their societies and governments for globalization and the information and communication revolution. (ICT) is an extensional term for information technology (IT) that stresses the

role of unified communications and the integration of telecommunications ( telephone lines and wireless signals) and computers (Murray, James 2011) , as well as necessary enterprise software, middleware, storage, and audiovisual systems, that enable users to access, store, transmit, and manipulate information.

The Strategy for Information Society Development by 2020 defines information security as one of six priority areas of development, and adopted the Law on Information Security which is designed to increase the level of information system protection and security.

It also defines protective measures that are directed towards SMEs amongst others, against security challenges and threats. So The Law on Information Security in defining the parameters and roles in fighting against cybercrime , that will provide support in ICT related incidents, raise awareness and inform the public about the need to protect ICT systems and possible risks.

## 6. Future New Technology

F.T will serve the new generation more than we can imagine, and will have a great impact on all sectors, such as transportation, health, education, communications, agriculture, government services, security, aviation, etc .

For example, the European Union estimated that in five years, electric cars will make up 50 percent of the total number of cars on the road in Europe, while autonomous cars will constitute around 20 percent.

In health, remote medical operations are already being executed in Europe and the US. It is now possible for many hospitals to share experiences globally via high-end ultra-fast communication.

Let's not forget, as well, the important role of robotics and sophisticated tools and equipment used inside operation rooms which allow for precise and fast results. Furthermore, online education has become very popular.

Universities have developed online learning programs which allow students to earn masters and PhD degrees. Technologies of the future have also made it highly important for universities to create new courses, such as AI courses and R&D for 5G testing. (<https://www.telecomreviewafrica.com/>).

In video streaming, 8K is now the most advanced technology in place even though it is not yet commercial. However, 4K is set to be commercial in two years and will change the way we watch videos. This new technology will introduce a new era for the broadcasting and audio visual industries .This is only the beginning of what seems to be a revolutionary era in which technology will disrupt all sectors without exception

### **a. Speculative ASI : Artificial SuperIntelligence**

The approaches set out in the previous sections are described as 'weak' or 'narrow' AI, in the sense that they can behave intelligently in domain-specific niches such as chess or cat recognition. 'Strong' or 'general' AI (AGI), on the other hand, is closer to our understanding of human intelligence as it refers to algorithms that can exhibit intelligence in a wide range of contexts and problem spaces. If weak AI is already rather strong, AGI would provide a new paradigm of capability. However, since it does not yet exist, it belongs to the realm of speculative AI. A second key term from the speculative domain is artificial superintelligence (ASI) . Biological superintelligence – achieved through real brains – is not explored here. However, the possibility has been considered through natural (or artificial) selection, genetic engineering, better organisation of collective human intelligence, and the use of drugs or implants to enhance cognitive function. that is, with higher levels of general intelligence than typical humans. A third is singularity, which refers to the moment where AI becomes sufficiently intelligent and autonomous to generate even more intelligent and autonomous AIs, breaking free from human control and embarking on a process of runaway development.

Evolving artificial superintelligence is one suggested path to be developed increasingly sophisticated ANNs through better evolutionary methods running on more powerful computers. Evolving superintelligence could start with the design of an algorithm to generate huge populations of multiple species of ANN in an immense simulated evolutionary environment.



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