

# Artificial intelligence&media

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**The presented work analyzes the concept of artificial intelligence. The main types and their application are considered. Its role in creating media content and advertisements is described. An analysis has been made of both the benefits it offers and the dangers it hides.**

**Keywords:** artificial Intelligence, media, software, content, news

## I. INTRODUCTION

Artificial intelligence can be defined as the ability of a machine to demonstrate abilities inherent in humans - to reason, learn, plan or create.

We talk about artificial intelligence when technical systems monitor their environment, receive data (which is prepared by others or which they collect themselves), process it and perform actions related to achieving a specific goal.

Artificial intelligence systems are able to adapt their behavior to some degree by analyzing the results of previous actions and operate autonomously.

Some AI technologies have been around for over 50 years, but real breakthroughs have been achieved in recent years thanks to increased processing power, the collection of massive data sets and the development of new algorithms [1].

AI is an intelligence that is demonstrated by machines and resembles that of a human.

A system that evaluates the conditions in which it makes decisions so as to maximize the chances of achieving goals

AI-learns, "understands" cause-and-effect relationships based on which it changes its behavior.

According to this definition, there is still a long way to go before reaching complete artificial intelligence, but that is certainly the direction.

Even at this stage of development, the introduction of artificial intelligence into the media is fundamentally changing the environment in which they develop. And no, TV isn't going to die, it's just transforming, and in fact, we consume a lot more content today than we used to. Every device offers us one, and each of them brings information both to us and to the artificial intelligence itself. Whether we realize it or not, every click is also transmitted to the reverse side of our smart devices and this creates huge volumes of data for each of us. These, in turn, are processed by AI, thus creating the models for offering content.

## II. TYPES OF ARTIFICIAL INTELLIGENCE

### A. SOFTWARE:

- virtual assistants,
- image recognition software,
- online search engines,
- speech and face recognition systems.
- audio and video stream recognition systems

### ARTIFICIAL INTELLIGENCE WITH A PHYSICAL FORM:

- robots,
- autonomous cars,
- drones

### AI IN THE DAILY

#### Advertising and shopping online

In commerce, artificial intelligence is important because it helps to optimize products and their delivery, to plan the necessary stocks and for other things. Artificial intelligence is being used extensively to provide personalized purchase suggestions based on what they are looking for or have purchased in the past.

### *Search online*

Search engines collect and process large volumes of data to provide increasingly precise and personalized search results.

### *Digital personal assistants*

Smartphones offer virtual assistants that answer questions, make recommendations, and organize daily routines.

### *Machine translations*

Language translation software relies on artificial intelligence to perform and improve translations. Similar technologies are used to automatically create subtitles for movies.

### *Smart homes, cities and infrastructure*

Smart thermostats analyze our behavior to save energy, and urban architects rely on improving mobility and reducing congestion by regulating traffic.

### *Cars*

Although autonomous cars are not yet everywhere on the streets, today's cars use many artificial intelligence functionalities, navigation among them. The EU, for example, has helped fund VI-DAS - automatic sensors that identify potentially dangerous situations.

### *Fighting misinformation*

Some apps try to identify fake news and disinformation by analyzing data from social networks, searching for words with a sensational or startling effect, and assessing the authority of online sources.

## **III. CONTENT OFFERING**

Depending on what we watch and what we prefer, artificial intelligence generates data on the basis of which it not only recommends content, but even uses data on how to recommend it to you; whether it's through sites, banners, it's all decoded by how you consume content, where you consume it, when you consume it. It can also determine the payment methods that are suitable for you. In this way, the content offering is personalized. I.e. on the same platform at the same time users receive relevant offers based on their user behavior. This is also how the top charts are configured, which are again personalized by AI, and last but not least, the most current content is also determined by our user habits. If we prefer to watch more sports, we will receive more suggestions for sports content.

The introduction of artificial intelligence is not as big an investment as it seems at first glance. There are already Intelligent Systems that are developed and ready to be used, such as: Tensorflow, Microsoft Cognitive Toolkit, MXNet, Torch and others. Training Intelligent Systems using databases has not been a problem for a long time, and they are already doing it through more complex mechanisms such as facial recognition, voice recognition, text, object, photos, etc.

The arrangement of program schemes in some linear media is also carried out by Intelligent Systems based on an analysis of content consumption data. And this is a very simple operation for Artificial Intelligence, which can now also create content.

### *Recommending content*

Usually it's about recommending content, which all social networks do - Facebook, Twitter, Instagram, all media use artificial intelligence in some form, and some of them are very advanced. This sounds very nice at first glance, but in fact it carries a huge threat, because the possible consequences are troll factories, fake news, new forms of propaganda, disinformation. Another application of artificial intelligence is in image and video content processing. Useful in the job is face recognition in a photo, but it also poses risks for fake videos, edited photos to look like real footage.

### *Content customization*

The pace of digitization in the media industry, technological innovations and globalization have caused the conflict between social networks and traditional media. At the heart of this conflict is the cost of media content. It is determined by the ratio between the communication power of social networks and the information power of traditional media, and its value by culture and freedom [2].

Issues surrounding media content center on who should provide the information - the Media or the Internet. They are in a fierce competition for who will be the crowned king of information under the scepter of digitization and globalization, which means a battle for more territory than the information space in general. At the heart of this battle for supremacy is the cost of media content.

The rapid pace of digitization in the media industry, technological innovations and globalization have made the collision between the Internet and

traditional media inevitable and expected. Inevitable because each new technological tool changes the range and speed of information channels and expected because technology has created global communication and radically modified the media environment, media content and media logic in general. The way the media creates and distributes content has also changed.

The speed of information in the media ecosystem is dynamic. Its spread depends on one very important indicator - the media content. Its importance specifies the place of information in traditional media and the time for which it will be distributed in social networks. Its price also depends on this. The main driver has always been politics and what is important for it in the modern cosmopolis - media content

The digital spark that lit the fire of the complex relationship between traditional media and platforms has its own media, information and political logic.

#### IV. CONTENT CREATION

Although not on its own, but still within set parameters, Artificial Intelligence is making significant strides in content creation. Back in 2018, the first Artificial Intelligence film was created. Yes, it's weird to say the least, but it exists. This is "Zone out" (Fig. 1) created by Bezhdamin artificial intelligence. The film is about 5 minutes long.

Artificial intelligence is increasingly being used to create trailers. The ability to feed the machines and analyze thousands of hours of film content makes it possible for the AI to be able to suggest the best moments that would most attract the attention of the audience and use them for the movie trailer. Such is the example of the trailer of the movie "Morgan" (Fig. 3).

After the AI learns what scenes keep the audience on edge and suggests them, IBM "filmmakers" assemble them for the movie trailer. AI can not only determine which scenes an audience will like, but they can very accurately determine the type of audience and how much they will watch for both existing films and new ones.

Mixing reality and augmented reality is another development in the field of media that is made possible by intelligent systems (Fig. 2).



Fig. 1. Creating a complete community "Zone out" by Benjamin



Fig. 2. Mixing augmented reality and reality "Finding Dory" - Disney



Fig. 3. Trailers "Morgan" by IBM & 20th Century Fox

#### V. NEWS

##### *Automating news feeds*

News studios are increasingly using artificial intelligence in data processing. Monitoring of information can only be done through set parameters and Artificial Intelligence to extract the information that is needed. Artificial intelligence can also significantly shorten the editing time and the overall technical processing of a given content.

##### *Recognizes voices and faces*

Artificial intelligence can successfully recognize faces and voices, and this is also coming in as a means

of gathering information reliably and more easily. Artificial intelligence can be used to verify data and detect fake news [3].

"Automated Journalism"

There is already the term "Automated Journalism" - automatic journalism. With it, we have news that is entirely created by artificial intelligence systems. They are applied when there are specific events, such as sports competitions or economic events, where the focus is on the correct presentation of the facts..

## VI. ADVERTISEMENT

*Targeted advertising*

As already mentioned, one of the huge advantages of Artificial Intelligence is the ability to analyze huge data sets and make predictions. This is absolutely necessary for the positioning of the ads in the media. Based on user behavior, smart algorithms predict what kind of ad would resonate with a given user and serve it. Thus, at the same time, different users receive different advertising messages depending on their interest. Depending on the search in different search engines on the Internet, Intelligent Systems can very accurately predict what would be interesting for each one and, even more, judge at what time it is most appropriate to offer it [4].

*Advertising on different devices on different channels"*

Intelligent systems can send an advertising message to all the devices you use at the same time. For example, if you searched for fishing tackle on one of your devices, you will receive an ad for fishing tackle on all the devices you use because intelligent systems recognize the user's "handwriting" and identify you.

*Interactive advertising on more than one screen*

A lot of work is also being done on interactive advertising. That is, to "click" on an item of current content and immediately receive information on the nearest place to buy it, how much it costs, what its characteristics are, even a link to an online order or a bargain offer.

## VII. OPTIMIZATION

One of the most important applications of artificial intelligence is to optimize work processes and resources. Much can be debated on the topic of whether artificial intelligence will kill a number of

professions and industries or create new ones, but it can certainly have a positive effect on the optimization of resources. A very clear example is Netflix's content storage system, which is based on artificial intelligence. Through a deep study of user behavior in combination with an intelligent content delivery system, it can compact the content to the maximum extent without affecting the quality. The system is intelligent to the point where it can predict when what content will be used where and provide it in high quality while the rest content is compressed. For the media, this means optimization of servers for data storage and greater speed of access.

Artificial intelligence plays an essential role in content editing. Intelligent systems can equalize the sound, "clean it up" it, improve the picture, speed up the editing process itself by cleaning up errors.

Recently, artificial intelligence has been used more and more successfully in programming. With its help, writing codes becomes much easier and faster.

## VIII. CONCLUSION

The future will undoubtedly bring many revolutionary changes in the way the media industry works and in the concept of "Media" itself. I recently had the opportunity to learn about an innovative content duplication project. Very soon, with the help of artificial intelligence, this process will be automated. A real actor's voice will speak in another language or an actor's voice will be "borrowed" and they won't have to actually go into the studio and dub. Only through a few spoken phrases, the artificial intelligence will be able to do a complete dubbing through the "hired" voice. But it also hides corresponding dangers. Emerging as one of the biggest is the manipulation of media content in all its varieties.

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