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Современные информационные технологии и их применение

В статье представлена роль информационных технологий в жизни человека. Авторы рассматривают, какое влияние оказывает информация на человека, как помогают информационные технологии. Где их использует человек, а также наиболее популярные технологии.

Modern Information Technologies and Their Application

We live in very interesting times – in the times of high technologies and IT progress. It is no secret that our life has changed. It has become faster and more technological. At production sites, in some medical fields, in educational and scientific spheres humans improve their environment by transferring some of their duties to technological devices.

A computer connected to the World Wide Web is not a dream any more, it is a workplace and a place where many inhabitants of the planet Earth spend their leisure time [1].

But why humans try so hard to use new technologies in their work, education and personal life?

The thing is that an irresistible wish of *curiosity* lives in all of us. From early childhood we discover the world through our feelings and sensations. We examine everything by tasting, we try to take things apart or break them in order to learn how they are organized. In our opinion, when a human grows up, this sense increases, not always though, but still this wish of curiosity lives in each of us.

Surely, each human, in addition to his or her curiosity, understands that there are many different things in the world which help him or her in everyday life. However, as a rule, these things were invented not by this

human but by someone else. We do not notice how many different devices, products of other people's labor we use. But sooner or later the human faces a question: What will I leave behind? And perhaps the sense of curiosity will grow into the *sense of duty* before the humanity and before him/ or herself, and then he or she will begin to invent and make experiments, creating different devices, and learn more and more information.

In addition to the fact that this century is a century of high technologies, we cannot argue that it is a century of information as well. Each human has a variety of information sources, which he or she can access and use. In our opinion, an intelligent person is not a person who knows more than others, but a person who knows where to get information and how to use it properly. This does not mean, however, that you should not learn anything and use only electronic gadgets. It is just necessary to understand that there are many information sources besides the Internet, mass media or television, and it is not reasonable to trust only one of them [2].

Nevertheless, the reality is that many people do not realize the importance of understanding modern information technologies and fall into the so-called trap. So, what are these information technologies? And what good do they do to the human and to the whole world?

One of the most well-known and strong examples of modern information technologies is the Internet. At the moment, the Internet or the World Wide Web is one of the most popular sources of information.

We would like to note that it is the most popular, but not always reliable source of information. In the modern World Wide Web there are a lot of sources of information which contain video and audio information, different images, articles and many other things.

Nowadays many people use the Internet to obtain different information, not only educational, but also entertaining one. Using the Internet, however, a human becomes addicted to it and begins to use it not because he or she needs it, but just by habit. Also, many entrepreneurs have understood that advertising field in the Internet can become a big push for the promotion of one's business. And now the Internet is a large information platform for doing business, conducting advertising campaigns and signing of different documents.

Less frequently do we read now for the good of our souls? Instead, we absorb information everywhere and easily become deaf while watching readily available, annoying and aggressive television channels. We choke

in the flows of movies, get entangled in the labyrinth of changing images in the Internet, we go blind in the flickering of ads in newspapers and radio. Information, data, news... [1].

It should not go unspoken though, that there are many things which we obtain in the result of using information technologies.

The Internet is a large educational platform as well. Today there are many educational materials, webinars, articles and instructions in the Internet. Due to the development of information technologies, one can get education remotely or even educate oneself on one's own [3].

Among other examples of modern technologies we would like to highlight television.

At the moment, this source of information has the maximum impact on people's thoughts and opinions. Due to this source, we can learn about absolutely everything that is going on in and outside our world. Thanks to television, we can be warned of emergencies and possible dangers. It is a huge and well-functioning network. Almost everyone has an opportunity to watch television and learn the news. Unfortunately, however, regarding recent events in the world, we have noticed unreliability of the shown information and misrepresentation of actual facts. More often than not, different television sources show different images, trying to represent the situation in the way which will be most easily perceived by the society and thus showing false instead of actual facts. Television has become a powerful information weapon which is skillfully used in the modern world.

In our opinion, the modern world experiences information resistance which is directed to the human. It is important to realize that any single opinion cannot be the true one; it should be proved by evidence. And one should regard a lot of information to make conclusions on this or that situation.

We suppose that in the modern world a human should possess information, get a handle on it and have his or her own opinion. Perhaps then there will be less people who blindly believe in false reality.

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Распознавание диабетической ретинопатии по изображению сетчатки

В данной статье обосновывается необходимость автоматизированного подхода к выявлению признаков диабетической ретинопатии по сетчатке глаза. В статье рассмотрены некоторые из основных подходов к решению задач выделения особых областей на изображении. Рассмотрен алгоритм машинного обучения для решения задачи классификации.

Identification of diabetic retinopathy on images of aretina

Diabetic retinopathy (DR) is an ocular manifestation of diabetes, a systemic disease, which affects up to 80 percent of all patients who have had diabetes for 10 years or more. Diabetic retinopathy is the leading cause of blindness in the working-age population of the developed world (Fig. 1 and Fig. 2).