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Національний технічний університет України «Київський
політехнічний інститут»
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молодих вчених, аспірантів та студентів

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ІНФОРМАЦІЙНИХ СИСТЕМ І ТЕХНОЛОГІЙ»

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АНАЛІЗ ВОКСЕЛЬНОЇ ТЕХНОЛОГІЇ. Романюк О. Н., Захарчук М. Д., Коваль Л. Г., Чехмestрук Р. Ю., Михайлов П. І. (Вінницький національний технічний університет)	74
ГАЛУЗІ ВИКОРИСТАННЯ РОЗПІЗНАВАННЯ ЗОБРАЖЕНЬ ОБЛИЧ. Романюк О.Н., Поперечна Є. К., Гаврилюк О. В., Барчук Н. Є., Денисюк А. В. (Вінницький національний технічний університет)	76
ВІДБІР ІНФОРМАЦІЇ З ШУМУ. Слушна Н.В. (Одеський національний технологічний університет)	78
Розділ 3: Нові інформаційні технології в освіті	80
SMART ECONOMICS: NEW TECHNOLOGIES IN EDUCATION. Budiakova O. (National University of Technologies and Design)	80
ARTIFICIAL INTELLIGENCE IN EDUCATION. Duisenbai R., Shaikhat D., Kim Ye.R. (Turan University, Kazakhstan)	82
ОСОБЛИВОСТІ ДІСТАНЦІЙНОЇ ФОРМИ НАВЧАННЯ І ЗАСОБИ ПІДТРИМКИ НАВЧАЛЬНОГО ПРОЦЕСУ У ПЕРІОД ВОЄННОГО СТАНУ. Антонова А.Р., Балгян О.М. (Одеський національний технологічний університет)	83
ТЕХНОЛОГІЧНІ АСПЕКТИ ПРОЕКТУВАННЯ ІНФОРМАЦІЙНОЇ СИСТЕМИ УПРАВЛІННЯ НАВЧАЛЬНИМ ПРОЦЕСОМ. Деркач Т.М., Ломанченко А.С., Хлопонін О.С. (Національний університет «Полтавська політехніка імені Юрія Кондратюка»)	84
СЕМАНТИЧНА МЕРЕЖА ФАКТОРІВ ВПЛИВУ НА РІВЕНЬ АКАДЕМІЧНОЇ ДОБРОЧЕСНОСТІ У ЗАКЛАДАХ ВИЩОЇ ОСВІТИ. Кудряшова А. В. (Українська академія друкарства)	86
ПРОГРАМНА ПІДТРИМКА ВИКЛАДАННЯ ДИСЦИПЛІНИ «ТЕОРІЯ АЛГОРИТМІВ». Охрімчук В.Д., Владімірова В.Б. (Одеський національний технологічний університет)	88
ГРУПОВІ ФОРМИ РОБОТИ З ВИКОРИСТАННЯМ МАТЕМАТИЧНОГО ПАКЕТУ GEOGEBRA НА УРОКАХ МАТЕМАТИКИ. Цуркан Ю.Р., Брескіна Л.В., Рубанська О.Я. (Державний заклад "Південноукраїнський національний педагогічний університет імені К.Д. Ушинського")	90
ІКТ У БАЗОВІЙ ПРОФЕСІЙНІЙ ПІДГОТОВЦІ ПРИКЛАДНИХ ЛІНГВІСТІВ. Черниш О.А. (Державний університет "Житомирська політехніка")	91
ВИКОРИСТАННЯ ПАКЕТУ GEOGEBRA У ПРОФЕСІЙНІЙ ПІДГОТОВЦІ МАЙБУТНЬОГО ВЧИТЕЛЯ МАТЕМАТИКИ. Шищенко І.В. (Сумський державний педагогічний університет імені А. С. Макаренка)	92
Розділ 4: Проектування інформаційних систем та програмних комплексів	95
DEVELOPMENT OF A VIRTUAL GUIDE SYSTEM FOR THE LIBRARY. Fedorov D.S., Mamurova A.K. (Turan University, Kazakhstan)	95
PROGRAMMING LANGUAGE ANALYSIS FOR MOBILE APP DEVELOPMENT. Kenesova A.Zh., Piyasov A.A., Kim Ye.R. (Turan University, Kazakhstan)	97
THE PROBLEM OF IDENTIFYING PERFORMANCE BOTTLENECKS IN DISTRIBUTED STRUCTURES. Khoshaba O.M. (Vinnytsia National Technical University)	99
ACCELERATE LOADING OF SITES DUE TO DYNAMIC SPLITTING OF CONTENT INTO SUBDOMAINS. Yakimchuk R.I., Galchonkov O.N. (State University "Odessa Polytechnic")	100
ОСОБЛИВОСТІ РОЗРОБКИ ЧАТ-БОТУ, ЯК КОМП'ЮТЕРНОЇ ПРОГРАМИ НА ОСНОВІ НЕЙРОМЕРЕЖ ТА ТЕХНОЛОГІЙ МАШИНОГО НАВЧАННЯ. Антонова А.Р., Галузинський М.О. (Одеський національний технологічний університет)	102
ІНФОРМАЦІЙНА СИСТЕМА ОБЛІКУ ДАНИХ СПОРТИВНИХ ТРЕНЕРІВ. Березоручька О.В., Рудніченко М.Д., Кравченко Г.В. (Державний Університет «Одеська Політехніка»)	104
ВЕБ-ДОДАТОК ДЛЯ МОНИТОРИНГУ ТА ПОШУКУ ЕКОЛОГІЧНО ЧИСТИХ МІСЦЬ	106

Розділ 3.

Нові інформаційні технології в освіті

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SMART ECONOMICS: NEW TECHNOLOGIES IN EDUCATION

OLENA BUDIAKOVA (bud1971@ukr.net)
National University of Technologies and Design

It has become much more difficult to manage an enterprise with the growing influence of information technologies. There are not only management problems, but also organizational ones, in particular related to business processes. With the development of the digital economy in the activities of enterprises there have been significant changes, such as: the emergence of information production factor, has become a significant resource; increase production costs, because information as a factor has a price; reduction of transaction costs through the use of information and communication technologies; increasing the importance of the human factor in the implementation of production based on information and communication technologies; reducing the importance of the uncertainty factor through the active use of information resources. These adjustments are related to the change in the relationship between buyer and manufacturer, which was in the traditional economy, compared with the development of digital and the emergence of smart economy. These relationships become closer and more individualized.

Only the possession and constant development of key competencies in this area will help to adapt and function properly in today's world. The best companies combine digital activity and strong leadership, making the transition from just information technology to business transformation. This is what is called digital maturity. Companies differ significantly in this respect, and those that are more mature in terms of digital technology outperform their competitors in business.

For business owners, any change is associated with risks, which, of course, but there are those who take risks and win. This creates a kind of wave of success of digital ideas, which dispels the fears of businessmen and ultimately pushes the digital economy forward. It should be noted that, in addition to information systems, companies need to implement the appropriate culture. To solve the problems of enterprises related to the transition to a new format of work, you need competent professionals in this matter. Therefore, the key factor of successful professional growth in the modern digital world is the formation of the following key competencies: the ability to continuous learning and willingness to constantly learn new knowledge of new emerging technologies. In other words, the importance of not acquiring specific knowledge, but the ability to acquire it, is constantly growing.

The smart economics of the digital age, which is gaining momentum, requires specialists who are able to process a large flow of information, and at the same time, to highlight the most important things. The smart economy sets ambitious goals for the people, companies and countries of the future. The key challenges for the economy, education and society in general are: training, competence requirements and general digital literacy. The main goals of the digital economy, from the standpoint, are: the elimination of digital illiteracy; advanced training; replacement of obsolete elements, such as employment records, with individual profiles.

The modern world is characterized by rapid and unpredictable changes, with the pace of such changes is constantly accelerating, and uncertainty is becoming a sign of the era. The time has come - the century of transformation of the labor market, because the digital economy is transforming all aspects of human life. There is a material, intellectual and technological gap between people, organizations, and countries as a whole. Researchers in this field predict that up to 50% of all current jobs can be automated. There is a so-called transition to another type of work, in which

specialized knowledge and skills become irrelevant. They are replaced by common "21st century competencies" – cognitive, socio-emotional and digital. A new idea of human capital is being formed, the main component of which is activity, a transforming force in relation to circumstances. The ability to adapt to change, the ability and desire to learn and relearn is becoming increasingly valuable. The sustainability of society and the formation of a progressive culture depends on the formation of new literacy – financial, civic, legal, communicative, Digital, Smart and more.

In today's conditions there is a problem of new content of education. For a long period of time, various countries have been actively developing experiments in the field of 21st century competencies. Our country has made significant progress in education in this area. It should be noted that the final result of any training, education – the ability to apply a particular person's knowledge and experience. To achieve this, it is necessary to change the paradigm for the training system, including education.

The most important factors that characterize the new economic system, in their indication of the limitations of the traditional system of personnel production. Such factors include the following: the innovation cycle is short, ie the time between acquiring new knowledge and creating technologies, products, services is reduced; a sharp increase in scientific and technical information, the emergence and development of fundamentally new ways to work with it; growing demands on researchers, competition of talented highly qualified specialists; growing influence of international standards; blurring of disciplinary and sectoral boundaries in research and development; development of interdisciplinary educational programs in higher education institutions.

The process of formation of knowledge and skills must be built on the basis of a set of innovative convergent educational solutions, including: careful design and maintenance of relevant basic knowledge necessary for the formation of fundamental knowledge; application of technologies of integrated educational programs in order to increase efficiency and reduce training time; extensive use of online learning methods; application of flexible templates for building curricula; application of various forms of additional education and self-education; application and active use of methods to support control and measurement and certification processes; Development and implementation of new innovative educational programs, such as "Smart-economics", including on the basis of interdisciplinary approach, such as "Bioeconomics" at the Kyiv National University of Technologies and Design, which combines economics, ecology and biotechnology, is very important for sustainable development society.

The modern world is becoming more and more technological. Technological thought merges with economic. The product of the ongoing processes is the "digital economy". In the coming decades, all industries, markets, areas of activity will be reoriented in accordance with the requirements of new digital economic models. All the above allows us to conclude that the reform of the education system on the basis of modern technological changes and taking into account current economic trends is inevitable. Training with key competencies and skills in the field of digitalization is becoming a priority.

Technological changes have made significant adjustments both in the formation of the world economic system and in the economy of individual markets and enterprises. Organizations of all types and sizes are already relying on digital or smart technologies to stay competitive. Because of the importance and ubiquity of Smart Technology, business leaders need to be able to manage digital assets and infrastructure. Many organizations have already started the digital race, but not everyone understands how to accept the new digital reality [1, p. 101].

The modern world is impossible to imagine without the use of innovative technologies, given the ever-increasing digitalization of society. Currently, various spheres of human life are actively using the latest technologies to speed up work with large data sets, minimize the risks caused by the human factor, reduce transaction costs of production and more. In particular, over the past twenty years, significant progress has been made in the study of neural networks, which has led to the rapid development and active use of artificial intelligence in various fields: from health to logistics of transport.

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ARTIFICIAL INTELLIGENCE IN EDUCATION

DUISENBAI R., SHAIKHAT D., KIM YE.R. (e.kim@turan-edu.kz)
Turan University, Kazakhstan

The information field in which modern people are immersed often disorient a person, especially teenagers, so they are distracted and cannot always focus on performing a specific task. In this case, artificial intelligence (AI) can come to the rescue. The use of new technologies makes it possible to optimize the educational process and monitor the quality of the knowledge received by the student.

Unfortunately, today the use of AI is minimal, and is limited to only minor interference in the organizational learning process. But specialized specialists are working to improve the service functions of artificial intelligence and are introducing more and more new technologies into training programs designed to simplify the interaction between student and teacher, minimize the personal factor, and also identify weaknesses and strengths of students to reveal their individual abilities.

Many parents are afraid that their children will be literally tied to a computer. But these fears are not justified. Artificial intelligence is designed to give an objective assessment of the level of knowledge of a student or a student without personal intervention.

Let's consider the main directions of AI application in education.

Eminent companies have developed several successful projects for the introduction of artificial intelligence in the field of education.

Adaptive learning [1]. One of the most promising ideas is to identify the reasons why a particular child loses interest in obtaining certain knowledge, and to find the optimal solution to increase his motivation.

Adaptive technology involves tracking the progress of each student and choosing a change of tactics of the teacher in order to form a unique training program. Thus, AI will tell you where to slow down the pace, consolidate knowledge, change the order of showing course blocks so that the student can fully study the subject, and the teacher can objectively assess the degree of assimilation of what the teenager has passed.

The essence of the method lies in the fact that all people are different, and the teacher, due to workload, cannot always keep track of whether the student has mastered the material he has passed and is ready to perceive the next one.

In practice, the adaptive course in Kazakhstan is currently used only for distance learning, but sites are being developed where the use of artificial intelligence with the development of logical thinking and self-training of the student will be widely in demand in the near future. In this segment, it is worth highlighting commercial projects in the field of HR, language learning, programming and design: Stepik, Logiclike, Examer, CI, E-mba, Skyeng, Websoft, Lingualeo, Netology and Geekbrains.

Language recognition and natural language analysis [1]. It is used when learning languages, but also in basic special applications. The most striking example of using AI in online learning today is the Duolingo application. Duolingo machine learning algorithms are constantly working on the preparation of training materials, adapting the complexity to the level of training of each user. First of all, Duolingo AI personalizes courses, adapting to strengths and weaknesses, as well as to the preferences of each student.

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Редакційна колегія: Котлик С.В., Корнієнко Ю.К.

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Відповідальний за випуск: Котлик С.В.