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## PROSPECTS FOR EFFECTIVE INTERACTION BETWEEN ARTIFICIAL INTELLIGENCE AND HUMAN PERSONALITY IN MODERN DIGITAL SOCIETY

У статті розкрито перспективи ефективної взаємодії людини зі штучним інтелектом у сучасному цифровому суспільстві.

У межах метасуб'єктної методології, яка розглядається як методологія саморозвитку особистості в умовах динамічного світу. Суб'єкт удосконалює засоби власного пізнання відповідно до закономірностей особистісного розвитку, динаміки розвитку референтного соціуму та усвідомлення суспільних трансформацій. До таких змін належать процеси, що відбуваються в інформаційно-технологічному середовищі, а також розвиток технологій штучного інтелекту, які постійно еволюціонують, ускладнюються та набувають нових функціональних можливостей.

Еволюція моделей штучного інтелекту відображає логіку методології саморозвитку, відповідно до якої суб'єкти пізнання аналізуються як з позиції їхньої внутрішньої психологічної організації, так і з огляду на їхню участь у процесах саморозвитку та взаємодії з іншими суб'єктами інтелектуальної комунікації.

Визначено такі перспективи ефективної взаємодії штучного інтелекту та особистості людини: вміння використання навичок ШІ + людина, зокрема, розуміння того, як формулювати запит на інформацію, у тому числі абстрактну; розширення можливостей автоматизації та оптимізації власної діяльності, зокрема, делегування таких завдань, як обробка запитів, великих обсягів даних, побудова графіків, виконання рутинних завдань; взаємне навчання; розробка для ШІ моделей когнітивної взаємодії з людиною з метою створення нових способів модернізації, стандартизації, оптимізації діяльності людини та підвищення її ефективності); оптимізація часових ресурсів для людини (виконання ШІ тих бізнес-процесів, які дозволять людині звільнити час для навчання та тих завдань, які може виконати саме людина); формування стандартів взаємодії ШІ та людини, зокрема на рівні як окремих дій, так і організації та суспільства в цілому; визначення моделей спільного прийняття рішень (вибір способу взаємодії та частки ШІ в прийнятті рішення, оцінка впливу дій ШІ на рішення людини); систематичне переосмислення (застосування нових способів удосконалення діяльності, процесів та бізнес-моделей з метою досягнення експоненціального зростання ефективності).

**Ключові слова:** штучний інтелект, взаємодія особистості людини зі штучним інтелектом, психологічні особливості, перспективи, сучасне цифрове суспільство.

The article reveals the prospects for effective human interaction with artificial intelligence in modern digital society.

Within the framework of metasubjective methodology, which is considered as a methodology of personal self-development in the conditions of a dynamic world, the subject improves the means of their own cognition in accordance with the patterns of personal development, the dynamics of the development of the reference society, and the awareness of social transformations. Such changes include the processes taking place in the information and technological environment, as well as the development of artificial intelligence technologies, which are constantly evolving, becoming more complex, and acquiring new functional capabilities.

The evolution of artificial intelligence models reflects the logic of the methodology of self-development, according to which subjects of cognition are analyzed both from the standpoint of their internal psychological organization and in view of their participation in the processes of self-development and interaction with other subjects of intellectual communication.

The following prospects for effective interaction between artificial intelligence and human personality have been identified: skillful use of AI + human skills, in particular, understanding how to formulate a request for information, including abstract information; expanding the possibilities of



automating and optimizing one's own activity, including delegating such tasks as processing requests, large volumes of data, constructing graphs, and performing routine tasks; mutual learning; developing models of cognitive interaction with humans for AI in order to create new ways of modernizing, standardizing, optimizing human activity, and increasing its effectiveness; optimizing time resources for humans through AI performing those business processes that allow people to free up time for learning and for tasks that only humans can perform; forming standards for AI-human interaction, both at the level of individual actions and at the level of organizations and society as a whole; determining models of joint decision-making, including the choice of interaction method and the share of AI in decision-making, as well as assessing the impact of AI actions on human decisions; and systematic rethinking, which involves applying new ways of improving activities, processes, and business models in order to achieve exponential growth in efficiency.

**Keywords:** artificial intelligence, interaction between human personality and artificial intelligence, psychological features, prospects, modern digital society.

**Introduction.** Effective interaction between artificial intelligence and human personality is extremely relevant in the context of the rapid digital transformation of modern society, accompanied by the active implementation of artificial intelligence technologies in all spheres of human life. Artificial intelligence systems are increasingly used in education, medicine, economics, public administration, communication, creativity, and professional activity, which significantly changes the nature of human interaction with the information environment.

The relevance of the study is determined by the need to identify optimal models of human interaction with artificial intelligence that contribute not only to increasing the efficiency of activity but also to personal development, the preservation of individuality, critical thinking, ethical values, and psychological well-being.

In modern conditions, artificial intelligence is not only a tool of automation but also an active participant in communicative, cognitive, and social processes, which requires a deep scientific understanding of the specific features of such interaction.

The problem becomes especially significant due to the emergence of generative artificial intelligence models capable of creating texts, images, program code, and other information products that influence activity, decision-making, professional self-realization, and other aspects. This actualizes the issues of responsibility, trust in algorithms, personal data protection, compliance with ethical standards, and ensuring the safe use of intelligent systems.

The study of the prospects for effective interaction between artificial intelligence and human personality has important practical significance for the formation of new approaches to work organization, the development of digital competencies, and human adaptation to the conditions of the information society.

In the context of globalization and digitalization of modern society, the problem of harmonizing human-artificial intelligence interaction is becoming one of the key directions of contemporary scientific research.

Certain aspects of the formation and development of artificial intelligence, as well as the study of its specific features, are addressed in the works of J. Barrat, R. Kurzweil, S. Russell, P. Norvig, and others. The psychological features of using artificial intelligence in education are explored in the studies of I. Vizniuk, V. Kyrychenko, A. Len, M. Moskaliuk, N. Moskaliuk, M. Rostoka, D. Usov, and others. At the same time, the psychological features of human interaction with artificial intelligence in modern digital society require further investigation.

**The purpose of the article** is to substantiate the prospects for effective human interaction with artificial intelligence in modern digital society.

**Results and Discussion.** The term "artificial intelligence" (AI) was introduced by the American computer scientist John McCarthy, who, at a seminar at Dartmouth College in 1956, set a task for ten scientists. The task was to make machines use natural language, form abstractions and concepts, solve problems that only humans could solve, and understand how to improve themselves. This two-month brainstorming session led to the establishment of scientific laboratories in various countries for the development of AI, including neural networks [14].

AI is actively developing in all spheres, as it contributes to the optimization and automation of various processes. According to data for the period from 2023 to 2030, the implementation of artificial intelligence technologies is expected to increase annually by 37.3% [3].

In the Concept for the Development of Artificial Intelligence in Ukraine, the terms are used in the following meaning: "artificial intelligence" is an organized set of information technologies through which complex tasks can be performed by using a system of scientific research methods and algorithms for

processing information obtained or independently created during operation, as well as by creating and using one's own knowledge bases, decision-making models, algorithms for working with information, and determining ways to achieve the assigned tasks; "the field of artificial intelligence" is an area of activity in information technology that ensures the creation, implementation, and use of artificial intelligence technologies [14].

The monograph *Strategy for the Development of Artificial Intelligence in Ukraine* states that "artificial intelligence is a function of artificial consciousness, represented by a system of algorithms created and controlled by it, which ensures self-learning based on available information, acquired knowledge, rules, laws of society, and its own experience; the creation of new knowledge on this basis for carrying out human instructions; as well as the ability to perform self-diagnostics and justify the decisions it makes" [10, p. 23].

The work *Artificial Intelligence in the System of Information and Analytical Support for the Training of Scientific Personnel* emphasizes that artificial intelligence nevertheless arises in the context of studying and applying naturally existing human intelligence [9, p. 242].

In the psychological and pedagogical context, AI is considered a multifaceted phenomenon that combines administrative and educational functions. The most common area of artificial intelligence application is its use as a tool for solving a range of technical issues related to providing information support for students, implementing automatic assessment systems for written works, and creating administrative and management resources for scheduling and managing educational processes [1].

The life of a modern person can no longer be imagined without the use of artificial intelligence algorithms — from autonomous machine learning systems and object recognition systems to various smart assistants. Today, the question of how AI technologies influence the mental states of modern individuals, their interaction with and trust in these technologies, human decision-making, emotional reactions, and other aspects of intersubjective relations is becoming increasingly relevant [11].

Artificial intelligence is a complex of technologies aimed at modeling human intellectual activity by means of computer systems. The main characteristics of such systems include the ability to learn, analyze information, recognize images, process natural language, and make decisions. In modern society, artificial intelligence is implemented through voice assistants, chatbots, recommendation systems, automated analytical programs, and other digital services.

Human interaction with artificial intelligence has a specific character, as it combines elements of technical and social communication. A person often perceives intelligent systems not only as mechanisms but also as subjects of interaction capable of "understanding" and "communication." This phenomenon is explained by the human tendency toward anthropomorphization, that is, attributing human traits and characteristics to technical objects.

The use of artificial intelligence significantly increases the speed of information processing and the efficiency of professional activity. However, at the same time, there is a risk of excessive dependence on digital technologies, which may negatively affect the development of critical thinking and personal autonomy. Constant reliance on intelligent systems for obtaining answers and making decisions gradually changes human cognitive mechanisms.

Within the framework of metasubjective methodology, which is considered a methodology of personal self-development in the conditions of a dynamic world, the subject functions simultaneously in two dimensions — internal and external. This duality determines the need for special means of coordinating these spheres. The main instruments of this process are knowledge and experience. In the course of self-development, this toolkit is constantly expanded and improved: through interaction with society as a collective subject, a person gains access to socially accumulated knowledge, while in the process of practical activity this knowledge is tested and transformed into proven personal experience.

The subject improves the means of their own cognition in accordance with the patterns of personal development, the dynamics of the development of the reference society, and the awareness of social transformations. Such changes include processes occurring in the information and technological environment, as well as the development of artificial intelligence technologies, which are constantly evolving, becoming more complex, and acquiring new functional capabilities.

The evolution of artificial intelligence models reflects the logic of the methodology of self-development, according to which subjects of cognition are analyzed both from the standpoint of their internal psychological organization and in terms of their participation in the processes of self-development and interaction with other subjects of intellectual communication.

Fundamental errors in the development of artificial intelligence programs are associated with the limitations of the cognition models on which they are based, bias in the selection of text corpora for training

and analysis, imperfections in the organization of the agents' social environment, and the subjectivity of criteria for evaluating the obtained results. In addition, there are objective difficulties that cannot be completely eliminated solely by improving software or algorithms.

According to the methodology of self-development, knowledge is inherently incomplete by its very nature; therefore, no instrument of cognition, including artificial intelligence, is capable of finally overcoming this incompleteness. The significance and practical value of knowledge are confirmed only in the process of real activity and practical application.

Artificial intelligence and related algorithms demonstrate high efficiency in processing large volumes of digital information. They are capable of identifying statistical patterns, formulating conclusions, and generating new texts based on analyzed data. However, their fundamental limitation remains the inability to work with what has not yet been clearly articulated, is not represented in neural network structures, and exists only at the level of potential meanings or possibilities [8, pp. 428–429].

The most important risks associated with the use of AI in human life activities should be identified as follows:

**Violation of confidentiality:** AI systems are capable of processing enormous amounts of personal data; therefore, improper processing or storage may lead to information leaks or violations of privacy.

**Algorithmic bias:** AI algorithms are trained on existing data that may be non-objective; accordingly, decisions based on such data may lead to distorted analytical results.

**Lack of transparency and justification of decisions:** the decision-making processes of AI systems are often difficult to explain and interpret.

**Cyberattacks using AI capabilities:** the creation of malicious programs or systems that can be used for hacking, fraud, or other criminal actions against companies and individuals [10].

**Responsibility for decisions made by AI:** automatically made decisions do not allow responsibility for their consequences to be assigned directly to AI systems.

It is impossible to replace human abilities and personal qualities in those areas of activity where individual “live” contact, the ability to determine a person’s emotional and physiological state, and understanding of interpersonal relationships are required.

Excessive dependence on intelligent systems may lead to a decrease in the level of critical thinking, the loss of independent information analysis skills, and the weakening of an individual’s social activity. The issues of personal data protection, information security, ethical use of algorithms, and responsibility for decisions made with the involvement of artificial intelligence also remain highly relevant.

One of the main prospects of human–artificial intelligence interaction is increasing the efficiency of human activity. Through the automation of routine processes, people gain the opportunity to focus on creative, analytical, and strategic tasks. In the field of education, artificial intelligence contributes to the personalization of learning, adaptation of educational content to the individual needs of students, and the development of digital competencies. In medicine, intelligent systems provide rapid processing of large volumes of information, improve diagnostic accuracy, and contribute to more effective patient treatment.

An important aspect of human–artificial intelligence interaction is the development of communicative and cognitive capabilities of the individual. The use of intelligent systems helps optimize the information search process, promotes the development of data analysis skills, and contributes to the formation of new models of professional activity. In addition, modern digital technologies create conditions for expanding access to knowledge, self-realization, and professional development.

It is advisable to identify the following prospects for effective interaction between artificial intelligence and human personality:

**Skillful use of AI + human skills,** particularly understanding how to formulate requests for information, including abstract information.

**Expansion of opportunities for automation and optimization of one’s own activity,** for example, delegating such tasks as processing requests, large volumes of information, constructing graphs, and performing routine tasks.

**Mutual learning (training AI in new skills and workplace learning).**

**Development of cognitive interaction models for AI in order to create new ways of modernizing, standardizing, and optimizing human activity and increasing its efficiency.**

**Optimization of human time resources (AI performing processes that allow people to free time for learning and for tasks that only humans can perform).**

**Formation of standards for AI-human interaction, both at the level of individual actions and at the level of organizations and society as a whole.**

Determination of joint decision-making models (choosing methods of interaction and the degree of AI involvement in decision-making, assessing the influence of AI actions on human decisions).

Systematic rethinking (inventing new ways of modernizing work, processes, and business models in order to achieve exponential growth in efficiency).

It should be noted that during human interaction with AI, the main criteria for success become:

- the use of AI for its intended purpose;
- the use of AI for processing reliable data in order to obtain a specific result;
- the determination of forms of interaction between humans and AI;
- verification of AI performance in terms of correctness, confidentiality, security, compliance with ethical standards and moral norms, reliability, and controllability of its actions and decisions.

**Conclusions.** Thus, the prospects for effective interaction between artificial intelligence and human personality lie in creating conditions for increasing labor productivity, developing education, science, and professional activity, expanding opportunities for personal self-realization, and improving social communication.

At the same time, an important task of modern society is to ensure the ethical, safe, and responsible use of artificial intelligence technologies in order to preserve the leading role of humans under the conditions of the digital transformation of modern society.

One of the key tasks of contemporary science is the in-depth study of the psychological mechanisms of human interaction with artificial intelligence in order to ensure a harmonious combination of technological development with the preservation of mental well-being and personal integrity.

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