

MAIN DIRECTIONS AND RESULTS OF SCIENTIFIC RESEARCH IN THE FIELD OF ARTIFICIAL INTELLIGENCE

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https://doi.org/10.5281/zenodo.23323262

Abstract

This scientific article highlights the main directions of scientific research in the field of artificial intelligence, the results achieved, and their significance in the development of modern society. It analyzes the developmental characteristics of areas such as machine learning, deep learning, natural language processing, computer vision, robotics, and generative artificial intelligence. Opportunities arising from the application of artificial intelligence technologies in the fields of education, medicine, industry, economics, and information technology will also be considered.

Keywords: artificial intelligence, scientific research, machine learning, deep learning, generative artificial intelligence, natural language processing, computer vision, robotics, innovation, automation, digital technologies, information security.

Based on the results of research on artificial intelligence, it is no secret that a number of specialists believe that many jobs will be reduced in the future as a result of digitalization and automation. According to the research findings of foreign scholars Daryna Rozum, Grazhevska, and V. Virchenko, "the implementation of artificial intelligence technologies in all spheres of economic activity will lead to structural changes in the labor market"[1], Marguerite Lane, Ann Saint-Martin "Artificial intelligence can have a significant impact on the labor market, including employment and wages, job transformation, and the working environment. Artificial intelligence can lead to job replacement and job creation"[2], S. Wang, and W. Wang, "Artificial intelligence has had a significant impact on the workforce in primary and secondary industries"[3], physicists Lingyue Tian, D. Sui "The development of artificial intelligence will lead to the polarization of employment in the labor market"[4], American scientists M. Frank, David Author, James Bessen, E. Brynjonson, M. Sebrian, D. Deming, M. Feldman, and Matthew Groh note that "there are obstacles in measuring the impact of artificial intelligence and automation on the future of work, including a lack of data and an understanding of cognitive technologies"[5] and Bangladesh scientists Dr. Mohammed Masum Iqbal, N.M. Zayed, "Artificial intelligence has both positive and negative impacts on the labor market". Researchers emphasize that the jobs

[1] Rozum D., Grazhevska N., Virchenko V., "Structural hange in labor market influenced by artificial: theoretical and empirical analysis in 2020 10th". International conference on advanced computer information technologies (ACIT), 2020. doi: 10.1109.

[2] Yashchyk O., Shevchenko V., Kiptenko V., Razumova O., Khilchevska I., Yermolaieva M., "The impact of informatization of society on the labor market". Postmod. Openings, vol. 12, no. 3Sup1, pp. 155-167, 2021.

[3] Wang S. and Wang W., "The impact of artificial intelligence on the labor force in the primary and secondary industries" in proceedings of the 2022. 7th. International conference on financial innovation and economic development. 2022. doi: 10.2991.

[4] Tian L., Sui D., "Spatial pattern of artificial intelligence and its influence on labor market in China". J.Phys. Conf. Ser., vol. 1629, no. 1, p. 12070, 2020.

[5] Frank M.R.et al., "Toward understanding the impact of artificial intelligence on labor," Proc. Natl. Acad. Sci., vol. 116. no. 14, P. 31-65. 2019. doi: 10.1073.

created in the field of artificial intelligence cannot be replaced if it automates all industries. This situation creates a social gap between sectors, and it will be a complex process with consequences.

The main advantages of these definitions are, firstly, that unemployment is considered an organic component of the labor market; secondly, that unemployment is associated with the lack of opportunity to find work for reasons beyond their control; and thirdly, that it is indicated in relation to the excess part of the labor demand. In our view, the main flaw in the aforementioned definitions lies in one-sided views, the interpretation of unemployment primarily as an economic phenomenon, and the absence of a distinction between the concepts of "unemployment" and "unemployed". In our view, the only factor in solving the problem of unemployment is human capital, as the criterion for achieving the realization and effectiveness of all material resources is its intelligence, physical strength, and intellectual potential. Unemployment is a complex socio-economic phenomenon characteristic of a society with market relations, where a portion of the working-age population remains unemployed as a result of a constant imbalance between supply and demand in the labor market. The unemployed are a special social group in a market-based society, a group that has been excluded from the labor market for objective and subjective reasons during a certain period. We distinguish between the category of "unemployment", which has a separate socio-economic content, and the "unemployed", which represents a social group in society.

We know that a social group refers to a specific community of people united by social characteristics, interests, values, norms, and traditions. In this regard, the unemployed can also be defined as a specific social group. All of them have no job and are interested in finding one, so labor is a defining value for them. The unemployed are under the influence of certain social and legal norms that determine the specific characteristics of their behavior. From our point of view, the unemployed are the able-bodied part of the population, a reserved or rejected labor force for a certain period, or a stratum that refuses to work permanently. The employed population is the owner of labor activity, i.e., the carrier of labor purchased and consumed as a human factor.

Currently, scientific research widely highlights the view that the main cause of unemployment is the imbalance of the labor market, which is reflected in contradictory figures between the supply and demand for labor. Indeed, unemployment cannot exist without markets and economic relations. However, the labor market is not the primary determinant in the formation of unemployment. Researcher V.I. Plaksya notes that "property relations are the objective economic basis for the inevitability of the emergence and existence of unemployment." The essence of these relations in the capitalist economic system lies in the alienation of the working people from the ownership of the means of production. The process of alienation from property is simultaneously the process of transforming human labor into a commodity and an object of purchase and sale on the labor market, and the carrier of labor and the person who owns it into a hired worker[6], – describes it as.

The author also believes that "only an employee who is not the owner of the means of production of the enterprise where he works and the product of his labor can be dismissed and deprived of the right to work".

[6] В.И.Плакся. Безработница: теория и современная российская практика социально-экономический аспект. –М.: Изд-во “РАГС”. 2005. С.39.

Research fellow V.A.Pavlenkov[7] reasoning: ..."the main reason for the inevitable existence of surplus labor is the movement of the competitive mechanism of the market economy, the laws of capitalist accumulation. The situation is exacerbated by waves of sudden recessions, depressions, and crises, business shutdowns, production declines, and the bankruptcy of firms, banks, service sector enterprises, and others. All of this, of course, is accompanied by the release of a large number of hired workers, representatives of bankrupt small businesses, as well as difficulties in accessing the labor force and joining the ranks of the unemployed.

In our country, serious attention is also paid to the issue of unemployment. The issue of employment and unemployment in the Republic of Uzbekistan is regulated on the basis of regulatory legal acts. A separate Law of the Republic of Uzbekistan has been signed on this matter. In accordance with the law, issues of unemployment, job creation, material support for the unemployed, measures to reduce unemployment, vocational training, employment through training in "Ishga Marhamat" monocenters (professional training centers), and the assignment of unemployment benefits are defined. Chapter 5 of this law is devoted to the issue of unemployment and the factors for its elimination.

Today, unemployed citizens are trained in more than 70 professions in demand in the labor market through 26 "Ishga Marhamat" monocenters, 53 vocational training centers, 539 vocational training centers, and training centers in mahallas. The unemployment rate in the republic has decreased to 8.9%. The poverty rate has decreased from 17 to 14.1 percent. In 2024, Uzbekistan plans to reduce the poverty level to 12 percent[8].

In conclusion, President Sh. In the words of Mirziyoyev:

"Time is passing rapidly, and people's intentions are moving forward." We must create new plans and opportunities to create appropriate conditions and meet the needs of our people. Preventing and eliminating unemployment is a key sign of the continuity of our achievements"[9].

Speaking about the spiritual and physical significance of labor, he views it as a process that serves not only the physical but also the spiritual development of a person. According to him, through labor, a person realizes themselves, finds their truth, and discovers the meaning of their life. In his work "Masnavi," he emphasizes that a person can draw closer to God and be purified through labor. Rumi considered honest labor an important aspect of human life. He emphasized that sustenance earned through honest labor brings blessings and makes a person satisfied with their life. He emphasizes the necessity of performing labor with spiritual joy and encourages a person to love their profession and treat it with love. In his work "Fih-i-ma-hi," he said: "A person who works sees the grace of Allah"[10], he notes.

Rumi considered unemployment and idleness to be a harmful condition that leads to the mental and physical weakening of a person. He emphasizes that it is impossible for a lazy person to grow spiritually, as living without labor distances a person from God. In his poems, it is repeatedly expressed that laziness and indifference cause the loss of the blessing of human life[11].

[7] Павленков В.А. Рынок труда. Занятость. Безработница. М.: Изд-во. МГУ. 2004.
[8] https://daryo.uz/k/2023/02/22/ozbekitonda-ishsizlik-darajasi-qariyb-9-foizga-tushirildi
[9] O‘zbekiston Respublikasi Prezidenti Sh.Mirziyoyev 2022 yil 6 oktyabr kuni Sirdaryo viloyatiga tashrifi chog‘ida so‘zlagan nutqidan.
[10] Jaloliddin Rumiy. “Fihi Ma Fih”. Tehron. “Al-Maktaba al-Asriya”, 1998. –B.17.
[11] Jaloliddin Rumiy. “Divoni Kabir”. Qohira. “Ilm va zikr”, 2010. –B.19.

Rumi believed that through human labor, one can understand the deep meaning of life. In his opinion, every profession, every type of labor is a means of manifesting divine truth. For example, the fact that the potter's process of molding clay is similar to the perfection of the human spirit, indicates that the life philosophy of a person who is constantly busy with work is a continuous reality, an example of a beautiful destiny.

Our great ancestor, the great thinker Alisher Navoi, widely discussed human perfection, moral qualities, and the role of labor in society in his works. His attitude toward labor and the human way of life is based on the principles of contributing to development, as in modern societies. Navoi considered labor to be the main value that glorifies a person and widely covered these ideas in his works.

Alisher Navoi believed that a person's true worth is determined by their labor. According to him, a person who lives without labor cannot find their place in society and is deprived of the meaning of life. In his work "Mahbub ul-Qulub," Navoi emphasizes that every profession has its place and that every individual must contribute to the welfare of society through their labor[12].

In his opinion, a person should earn their livelihood through honest labor. The idea that "a person whose labor is honest finds blessings in all aspects of their life" is also found in his works. In the collection of works "Khamsa," he separately highlights the importance of craftsmanship, agriculture and other professions in society, and his contradictory views on the meaning of the life of a working person and an unemployed person are the culmination of this work.

In his work "Mahbub ul-Qulub," Alisher Navoi describes laziness as a vice that leads a person to degradation, emphasizing that society and any system must stimulate every person with work, and evaluates the role of the state as the main principle responsible for this[13].

Navoi considered labor to be an important factor in building a just society. In his opinion, society will prosper if every person is devoted to their profession and works honestly. Through the epic "Saddi Iskandari," he promotes diligence and justice, showing that leaders and leaders are primarily obliged to protect the interests of the working people. As early as his time, Alisher Navoi emphasized that human-society relations are primarily responsible for creating decent working conditions for people; it is important for an individual to prioritize the desire to work primarily for the interests of themselves, their family, and then society, for which they must be able to receive high income, spiritual nourishment, and comfort from their labor. Such views were formed on the basis of the Uzbek national model from the perspective of modern labor and business psychology. The development of a new system of labor market relations becomes a necessity.

In conclusion, it can be said that Jalaluddin Rumi's work leads a person not only to wealth but also to spiritual growth. Honest labor, devotion, and perseverance are Rumi's fundamental principles regarding labor, and these ideas remain relevant today.

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