

A New Paradigm of Artificial Intelligence

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key words

terminology, modern methods of analysis and evaluation, vector of development

Based on the analysis of modern ideas about artificial intelligence, two main and closely interrelated problems have been identified: the lack of clear and understandable terminology in this area; insufficient development of the scientific foundations of artificial intelligence.

The basic definitions of the concepts of intelligence, artificial intelligence, hybrid intelligence and proposals for the creation of a unified theoretical and methodological base of natural and artificial intelligence are formulated.

A new paradigm of artificial intelligence is proposed, based on the scientific foundations of the modern methodology of program-target planning and the theory of self-organization. The complex and interdisciplinary nature of the problems associated with the creation of artificial intelligence systems and technologies makes it necessary to further improve the scientific foundations of artificial intelligence in inseparable connection with natural intelligence and with its leading role.

References

1. Vernadskiy V.I. Biosphere and noosphere, Moscow, Ayris-press, 2004, 576 P.
2. Express information on digital electronic equipment, *JSC CRI Electronics*, 2020, no. 5(6654).
3. Savel'ev I.I., Ulanov E.A. Novye tekhnologii v biznese: iskusstvennyy intellekt [New technologies in business: artificial intelligence], *Economics and management: problems, solutions*, 2020, vol. 2, no. 1, pp. 119–125.
4. Ivanov A.A., Rozhkova L.A. Iskusstvennyy intellekt kak osnova innovatsionnykh preobrazovaniy v tekhnike, ekonomike, biznese [Artificial intelligence as the basis of innovative transformations in technology, economics, business], *News of St. Petersburg State University of Economics*, 2018, no. 3(111), pp. 112–115.
5. Voskoboinikova E.S. Orientiry ispol'zovaniya intellektual'nykh sistem v biznes-protsessakh [Orientation of the use of intelligent systems in business processes], *Economic research and development*, 2019, no. 3, pp. 83–90.
6. Garbuk S.V., Gubinskiy A.M. Iskusstvennyy intellekt v vedushchikh stranakh mira: strategii razvitiya i voennoe primenenie [Artificial intelligence in the leading countries of the world: strategic development and real application], Moscow, *Znanie*, 2020, 860 P.
7. Leonov A.V., Pronin A.Yu. Metodologicheskie aspekty upravleniya intellektual'nymi resursami pri sozdaniy vysokotekhnologicheskoy produktsii v Rossii [Methodological aspects of intellectual resource management in the creation of high-tech products in Russia], Moscow, *INFRA-M*, 2022, 241 P.
8. Burenok V.M. Novaya paradigma silovogo protivostoyaniya na osnove primeneniya iskusstvennogo intellekta [The new paradigm of forceful counteraction is based on the application of artificial intelligence], *Armament and economy*, 2020, no. 2(52), pp. 4–8.
9. Galkin D.V., Kolyandra P.A., Stepanov A.V. Sostoyanie i perspektivy ispol'zovaniya iskusstvennogo intellekta v voennom dele [The state and prospects of using artificial intelligence in military affairs], *Military thought*, 2021, no. 1, pp. 113–124.
10. Gorbunova E.A. Tekhnologii iskusstvennogo intellekta v obrazovanii [Artificial intelligence technologies in education], *Prospects of science*, 2021, no. 7(142), pp. 55–58.
11. Rudenko A.P. Samoorganizatsiya i sinergetika [Self-organization and synergetics]; <http://spkurdyumov.narod.ru/rudenko1.htm>.
12. Moiseev N.N. Algoritmy razvitiya [Algorithms of development], Moscow, *Nauka*, 1987.
13. Rayzberg B.A. Programmnno-tselevoe planirovaniye i upravlenie [Program-target planning and management], Moscow, *INFRA-M*, 2002.
14. Chanyshhev A.N. Aristotle, Moscow, *Mysl'*, 1981.
15. Leonov A.V., Pronin A.Yu. Upravlenie sozdaniem vysokotekhnologicheskoy produktsii v gosudarstvennykh programmakh i proektakh [Management of the creation of high-tech products in state programs and projects], Moscow, *INFRA-M*, 2020, 360 P.
16. Kuhn T. Struktura nauchnykh revolyutsiy [The structure of scientific revolutions], Moscow, *AST*, 2015, 320 P.