COMPARATIVE ANALYSIS
OF ARTIFICIAL NEURAL NETWORKS
AND MULTI-AGENT SYSTEMS

A.S. IBRAGIM

Institute of Applied Mathematics and Automation –
branch of the FSBSE «Federal Scientific Center
«Kabardino-Balkarian Scientific Center of the Russian Academy of Sciences»
360000, KBR, Nalchik, 89 A Shortanov str.
E-mail: ipma@niipma.ru

The article discusses two artificial intelligence systems - neural networks and multi-agent systems. The main goal is to determine the advantages and disadvantages of these AI methods, the best methods of their application in solving certain problems. The schemes of construction and stages of functioning of these methods of artificial intelligence are described. As a result of practical application, some advantages and disadvantages of neural networks (NN) and multi-agent systems (MS) have been identified.

Keywords: neural networks, Multi-agent system, agent, neurons, artificial intelligence, algorithms.

REFERENCES

1. McCulloch U.S., Pitts V. *Logicheskoye ischisleniye idey, otnosyashchikhsya k nervnoy aktivnosti* [Logical calculus of ideas related to nervous activity] / Ed. C.E. Shannon and J. McCarthy // Automata M.: Foreign literature Publishing house, 1956. Pp. 363-384.

2. Rosenblatt F. *Printsipy neyrodinamiki: pertseptrony i teoriya mekhanizmov mozga* [Principles of Neurodynamics: Perceptrons and the Theory of Brain Mechanisms]. M.: Mir, 1965. 480 p.

3. Russell S., Norvig P. *Iskusstvennyy intellekt. Sovremennyy podkhod* [Artificial Intelligence. A modern approach]. M.: Williams Publishing, 2019.

4. Tarasov V.B. *Ot mnogoagentnykh sistem k intellektual'nym organizatsiyam. Seriya "Nauki ob iskusstvennom"* [From multi-agent systems to intelligent organizations. Series "Sciences about the artificial"]. 2002. 352 p. ISBN 5-8360-0330-0.

Information about the author:

Ibrahim Anzor Subhi, 2nd year post-graduate, Scientific-educational Center of Kabardino-Balkarian Scientific Center of RAS 09.06.01 - Informatics and computer technology 05.13.06 - Automation and control of technological processes and production (Full-time course).

360002, KBR, Nalchik, 2, Balkarov street.

E-mail: asibragim@gmail.com