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ИНФОРМАЦИОННО-ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ



INFORMATION AND ARTIFICIAL INTELLIGENCE

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Аннотация. Искусственный интеллект – научное поле было сформировано в 50-х годах прошлого века на стыке кибернетики, лингвистики, психологии и программирования.

Ключевые слова: проблема искусственного интеллекта, описание знаний, математическая теория.

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Annotation. Artificial Intelligence – The scientific field was formed in the 50s of the last century at the crossroads of cybernetics, linguistics, psychology and programming.

Keywords: problem of artificial intelligence, description of knowledge, mathematical theory.

Artificial Intelligence (SI) is an artificially created system that simulates (imitates) the thinking of modern people, its psychology, and their real intelligence and implements them in modern computers.

Artificial Intelligence – The scientific field was formed in the 50s of the last century at the crossroads of cybernetics, linguistics, psychology and programming.

The main purpose of the creation of artificial intelligence was to provide machines to solve problems that were traditionally addressed by humans, and this is one of the most complex scientific and practical problems facing humanity.

With the help of artificial intelligence, it has been proven that, under certain conditions, the Companions have been able to prove the mathematical theory of human activity, compose poems, translations, search for complex information and so on. has the ability to perform.

Scientific research in this area is conducted in two directions:

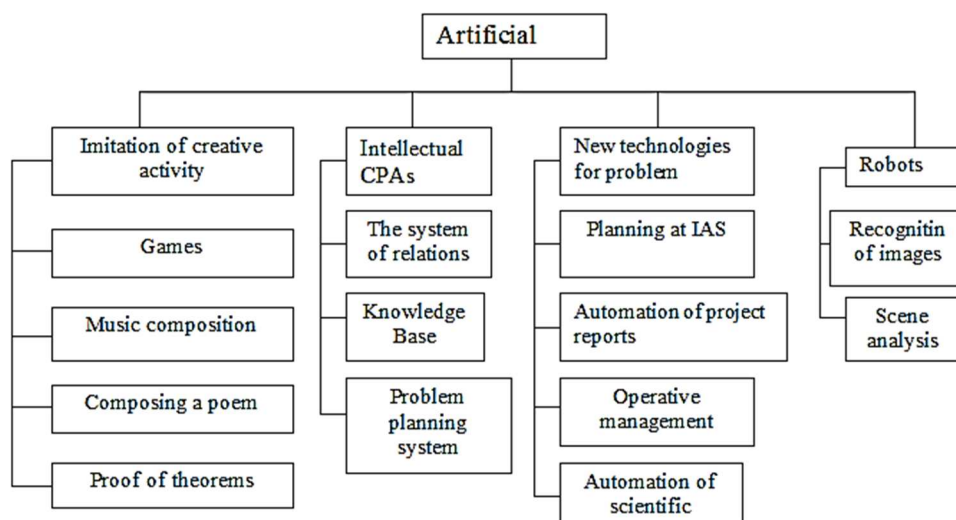
The first direction is to look at the product of the intellectual behavior of a person and learn about its structure. It studies various factors of the human intellectual activity and solves these problems and executes products with the help of modern technology, ie computers. If the solution of such issues is implemented at the highest level in the computer, then the corresponding intellectual activity is considered automated. The intention of this direction is mainly due to the development of computers and the improvement of programming. This direction is also called machine intelligent artificial intelligence [1].

The second direction is based on the data of the neuro-physiological and psychological mechanisms of intellectual activity, that is, the conscious activity of the person. Researchers and designers are trying to perform these actions with technical facilities so that they can perform human activities within a pre-assigned task.

The classification of works in the field of artificial intelligence is presented in the table.

The following basic directions for the study of artificial intelligence should be defined:

1. Presentation of knowledge (creation of «knowledge base», presentation of special knowledge in memory of intellectual systems, formation);
2. Knowledge manipulation (intellectual systems teach methods and methods of knowledge manipulation);
3. Communication (eg computer-aided interpretation of the text, human interaction with the computer);
4. Perception of information (training of computers to image recognition, analysis of visual information);
5. Teaching solutions to problems that intellectual systems have not encountered so far;
6. Normative, socially oriented (models' creation).



Drawing 1 – The types of Artificial Intelligence

The following complex methods are used in the study of artificial intelligence:

- Methods of mathematical logic;
- Frame languages;
- Methods of applied and mathematical linguistics;
- Methods of conventional psychology;
- Investigation of recognition mechanisms.

One of the main problems for the creation of artificial intelligence is the description and use of knowledge. The following problems must be solved in order to create basic knowledge:

First, it is necessary to develop the application knowledge needed in the relevant field. Writing this requires a specialist – both application and mathematician – to work together. Formation or selection of the conceptual scheme of the model is required to formulate the problem.

Second, the description of knowledge is problematic. This, in turn, is to preserve memory in the computer with the help of a built-in machine.

The third is the problem of using knowledge. This also requires the development of computational theory and other converters so that they can be used in turn-based models.

Fourth is a technology problem that is usually addressed by system programmers. This is the software of the models, that is, the creation of a knowledge base and control system.

In general, the conceptual model of knowledge can be conventionally divided into conceptual and empirical models. The conceptual model for solving some probes is provided with the help of a heuristic method. Because the conceptual writing model cannot guarantee that it will be applied in all practical situations [2].

Литература / References

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