A new study showed that people and artificial intelligence (AI) use similar learning mechanisms, combining a quick and flexible way of mastering knowledge with a gradual accumulation of experience. The work was published in the journal ProChedings of the National Academy of Sciences.

Scientists from Brown University have found that a person's teaching methods resemble the work of two types of memory – short and long -term. Depending on the task, a person can either quickly catch the rules on the basis of several examples, or gradually improve the skill through long -term practice.

To check the hypothesis, the researchers used the meta-teaching method. This is a special type of training in which artificial intelligence learns to understand the learning process itself. In a series of experiments, the neural network, repeatedly encountering different tasks, began to demonstrate the ability to quickly adapt to new conditions – just as a person more easily masters new games after experience in dozens of others.

One of the experiments was to check the ability of the system to combine familiar elements. If the AI is already trained in the list of flowers and the list of animals, then he was offered to recognize new combinations, such as green giraffes, which were not previously in training data. After thousands of such exercises, the neural network coped with the task more successfully.

The results confirmed that a quick and flexible way of mastering knowledge is formed only after the accumulation of a certain amount of experience. The researchers also noticed that humans and AI have similar compromises: the more difficult the task is, the higher the chance that his decision will be fixed in his memory.