



Neural Network Using Artificial Acetylcholine

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SUMMARY

Neural Network (NN) is made to imitate the human nervous system. There are many nerve cells (neurons) in the brain, and information is passed on next neurons through the connection, and we can judge things. Synapse connects neurons and becomes junction for communicating information. NN is the method to solve various problems about function approximation and optimization by giving learning ability to computer. Currently, NN is used in games, applications, cars, businesses and so on.

In this study, we propose NN using characteristic of acetylcholine. Acetylcholine is a major neurotransmitter in the brain. The main work of acetylcholine is to excite the nerves and enhance motivation for learning and memory[1]. In the neural network, we bring it closer to human information processing by using this function. Our purposes are to improve learning accuracy and reduce learning loops.

REFERENCES

- [1] Hideaki Shishido, Shogo Miyake and Shuji Satoh, "A model of long-term memory based on cholinergic control," IEICE technical report. Neurocomputing 103(734), pp.91-96, 12-03-2004.