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Multi-Layer Perceptron with Death of Neuron and Neurogenesis for Learning of Time Series

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SUMMARY

It is said that there are about 100 billion neurons in the human's brain. The network is formed by connecting of more than one neuron. However, neurons had been considered to be lost with age until several years ago. It was impossible to generate new neuron in the adult brain. In recent studies, some researchers reported that new neurons are generated in the dentate gyrus of hippocumpus [1] - [3]. This process is called "neurogenesis". Death of neurons are can be occurred by various things. And, the neurogenesis improves ability to solve problems. In the previous study, we have proposed artificial neural network which was applied the neurogenesis [4] - [6].

In this study, we research the behavior of the death of neuron and neurogenesis in more detail. We propose the some network which is applied the death of neuron and neurogenesis during the MLP learning process. We compare the learning performance of each MLP by some MLPs.

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