Neural Network

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Neural network is a very widely used algorithm, and it is a concept from biology science. A neural network model is specified by three parts: architecture, neuron model, and learning algorithm.

Architecture of neural network is a set of neurons and weighted links connecting neurons. It could be as simply as two layers: the input layer and output layer. But with hidden layers added into the model, it will fit more cases.

Neuron model is the the information processing unit of the neural network.

Learning algorithm is used for training the neural network by modifying the weights in order to solve the particular learning task correctly on the training example.

The whole thing in the neural network can be declared in one sentence: “when neuron A repeatedly participates in firing neuron B, the strength of the action of A onto B increases,” and this is called as Hebbian learning.

Having searched lots of academical papers about neural network, we have learned that it is necessary to collect amount of data to train the model, this is called the training data. Also another part of data is called as testing data to test how well the model to predict the future, and this is the standard stone to test is it a good neural network model.

We decided to finish a project about face recognition and figure out what kind of mood the person is in. And now we are in the step of read related materials and collect data.

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| Mar 22 | Mar 29 | Apr 5 | Apr 12 | Apr 19 | Apr 26 |
| collect information and read some related articles about neural network | | |  |  |  |
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| Achieve neural network module in language C++ and then come up with a more specific project to achieve. | | |  |  |  |
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|  |  | Achieve the project in language C++, write code. | | |  |
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|  |  |  |  | Testing and revise | |
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|  |  |  |  |  | Make some updates for our project |

We have two persons in our team, we will write the project code together and it is more convenient to discuss. We will declare which part is done by whoever in the code in github. Most of things we both need to do it. Except for achieve part, we need to write different part of code.

Our github repository <http://github.com/jzhou23/neural-network>