Deep Neural Network in TensorFlow

You've seen how to build a logistic classifier using TensorFlow. Now you're going to see how to use the logistic classifier to build a deep neural network.

Step by Step

In the following walkthrough, we'll step through TensorFlow code written to classify the letters in the MNIST database. If you would like to run the network on your computer, the file is provided here. You can find this and many more examples of TensorFlow at Aymeric Damien's GitHub repository.

Code

TensorFlow MNIST

```
from tensorflow.examples.tutorials.mnist import input_data
mnist = input_data.read_data_sets(".", one_hot=True, reshape=False)
```

You'll use the MNIST dataset provided by TensorFlow, which batches and One-Hot encodes the data for you.

Learning Parameters

```
import tensorflow as tf

# Parameters
learning_rate = 0.001
training_epochs = 20
batch_size = 128  # Decrease batch size if you don't have enough memory
display_step = 1

n_input = 784  # MNIST data input (img shape: 28*28)
n_classes = 10  # MNIST total classes (0-9 digits)
```

The focus here is on the architecture of multilayer neural networks, not parameter tuning, so here we'll just give you the learning parameters.

Hidden Layer Parameters