Deep Learning and Temporal Data Processing

Neural Networks in TensorFlow

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Agenda

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MNIST

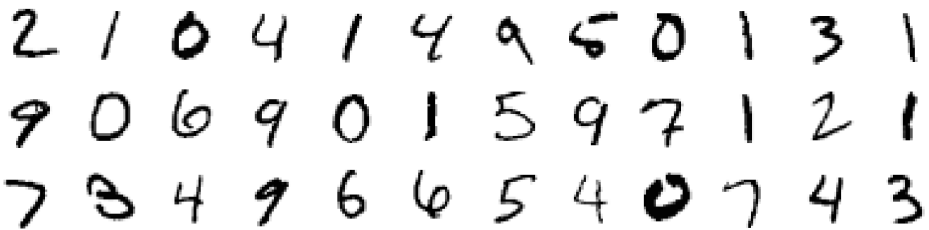
Goal

References

MNIST

MNIST Dataset

MNIST[1] is a database of handwritten digits consisting of 60K training images and 10K testing images. All digits have been centered in 28x28 grayscale images.



MNIST Dataset

Due to its simplicity (in 2017!) the MNIST dataset is often considered to be the "Hello World!" in the Machine Learning framework.

In `lab_utils.py` I already implemented a function `get_mnist_data` that handles the download and loading of the dataset.

```
# Load MNIST data
mnist = get_mnist_data('/tmp/mnist', verbose=True)
```

Goal

Goal

The **goal** of this practice is to **implement a fully-connected neural network to perform 10-class classification** on the MNIST dataset.

Outline

Some advices:

1. Take your time to explore the dataset
2. Start small and make the whole training pipeline working
3. First implement a single hidden layer neural network
4. Implement a bigger network: how does this affects performance?

References

[1] Y. LeCun.
The mnist database of handwritten digits.
http://yann. lecun. com/exdb/mnist/, 1998.