# EE243 assignment 5

June 1, 2018
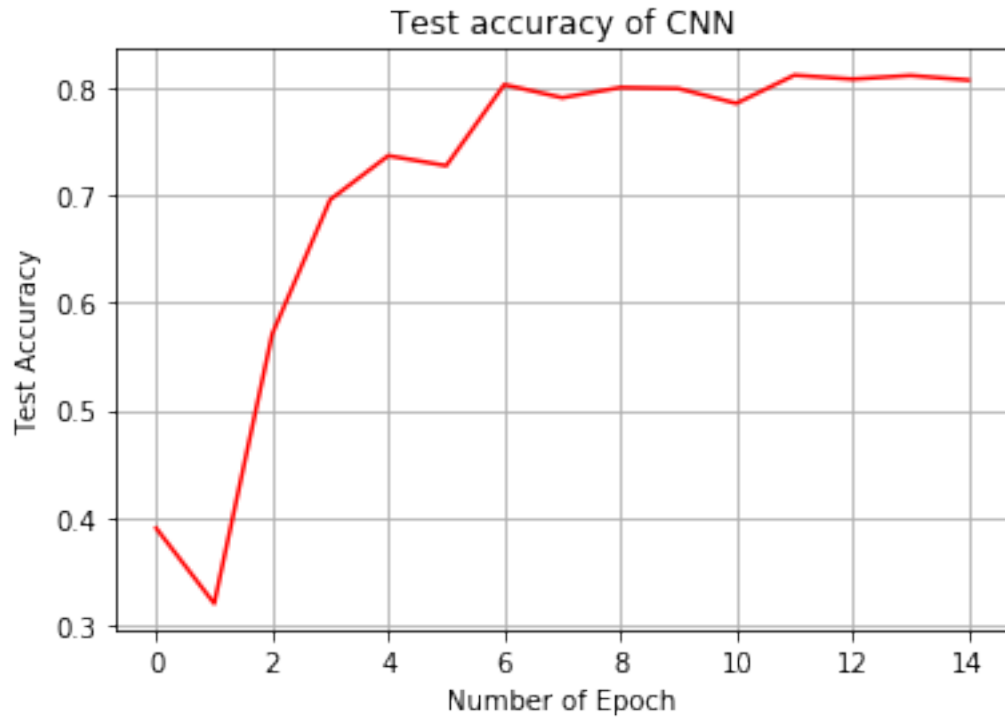
## 1 Plot of training results

### 1.0.1 note

Based on the following result, my model perfectly fitted, because the both the training accuracy and test accuracy limb to the top. However, if I keep encrease the number of epochs, the model might be overfit to the training data.
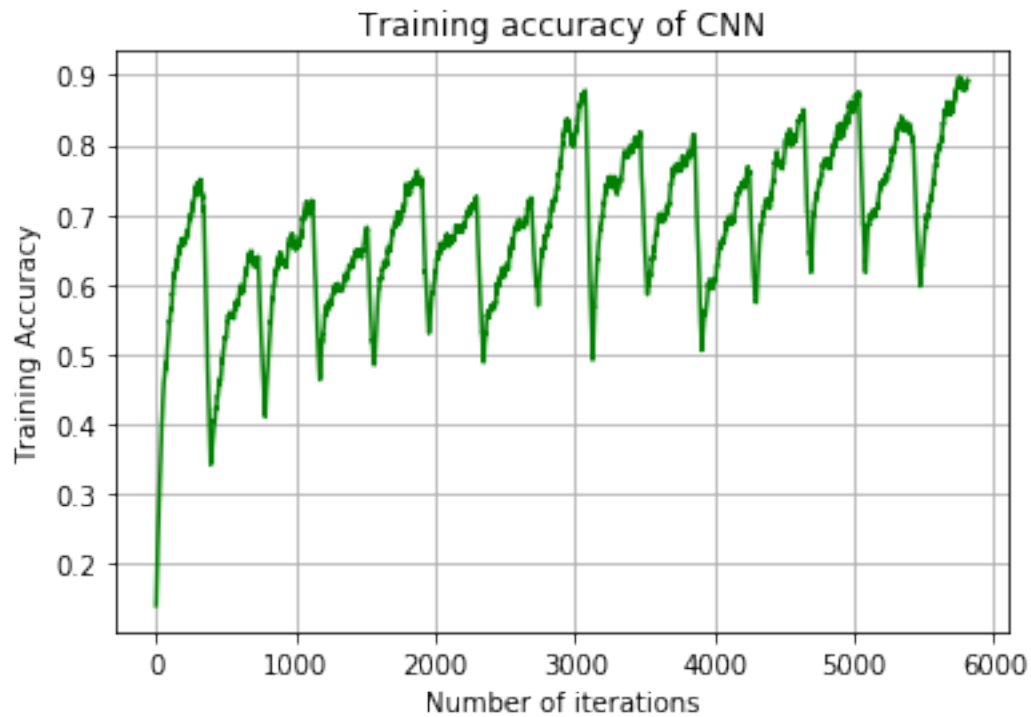
```python
In [5]: import numpy as np
        import matplotlib.pyplot as plt

        test_accuracy = np.load('test_accuracy.npy')
        train_accuracy = np.load('train_accuracy.npy')
        train_loss = np.load('train_loss.npy')

In [6]: fig1 = plt.plot(np.arange(len(test_accuracy)), test_accuracy,'-r')
        plt.xlabel('Number of Epoch')
        plt.ylabel('Test Accuracy')
        plt.title('Test accuracy of CNN')
        plt.grid(True)
        plt.show(True)
```

Test accuracy of CNN

```
In [7]: w = np.ones(50)
        train_accuracy = np.convolve(w/w.sum(), train_accuracy,mode='valid')
        fig2 = plt.plot(np.arange(len(train_accuracy)), train_accuracy,'-g')
        plt.xlabel('Number of iterations')
        plt.ylabel('Training Accuracy')
        plt.title('Training accuracy of CNN')
        plt.grid(True)
        plt.show(True)
```

Training accuracy of CNN

```
In [8]: train_loss = np.convolve(w/w.sum(), train_loss,mode='valid')
        fig3 = plt.plot(np.arange(len(train_loss)), train_loss,'-b')
        plt.xlabel('Number of iterations')
        plt.ylabel('Training loss')
        plt.title('Training loss of CNN')
        plt.grid(True)
        plt.show(True)
```

Training loss of CNN