

HOMEWORK 3

Below is the screenshot for training accuracy and time:

```
↳ Epoch 1/10
118/118 [=====] - 4s 26ms/step - loss: 0.5084 - accuracy: 0.8501
Epoch 2/10
118/118 [=====] - 3s 26ms/step - loss: 0.1561 - accuracy: 0.9564
Epoch 3/10
118/118 [=====] - 4s 31ms/step - loss: 0.1113 - accuracy: 0.9700
Epoch 4/10
118/118 [=====] - 3s 27ms/step - loss: 0.0815 - accuracy: 0.9768
Epoch 5/10
118/118 [=====] - 3s 27ms/step - loss: 0.0704 - accuracy: 0.9808
Epoch 6/10
118/118 [=====] - 3s 28ms/step - loss: 0.0638 - accuracy: 0.9809
Epoch 7/10
118/118 [=====] - 4s 30ms/step - loss: 0.0529 - accuracy: 0.9845
Epoch 8/10
118/118 [=====] - 3s 26ms/step - loss: 0.0494 - accuracy: 0.9853
Epoch 9/10
118/118 [=====] - 3s 27ms/step - loss: 0.0450 - accuracy: 0.9867
Epoch 10/10
118/118 [=====] - 4s 31ms/step - loss: 0.0412 - accuracy: 0.9888
The training time is 33.95619511604309 seconds
```

Below is the screenshot for testing accuracy:

```
313/313 [=====] - 1s 2ms/step - loss: 0.1190 - accuracy: 0.9748
Test Loss: 0.11898624151945114, Test Accuracy: 0.9747999906539917
```

The code for the homework problem is shown below: