

Note Information

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Title : pytorch基础实战

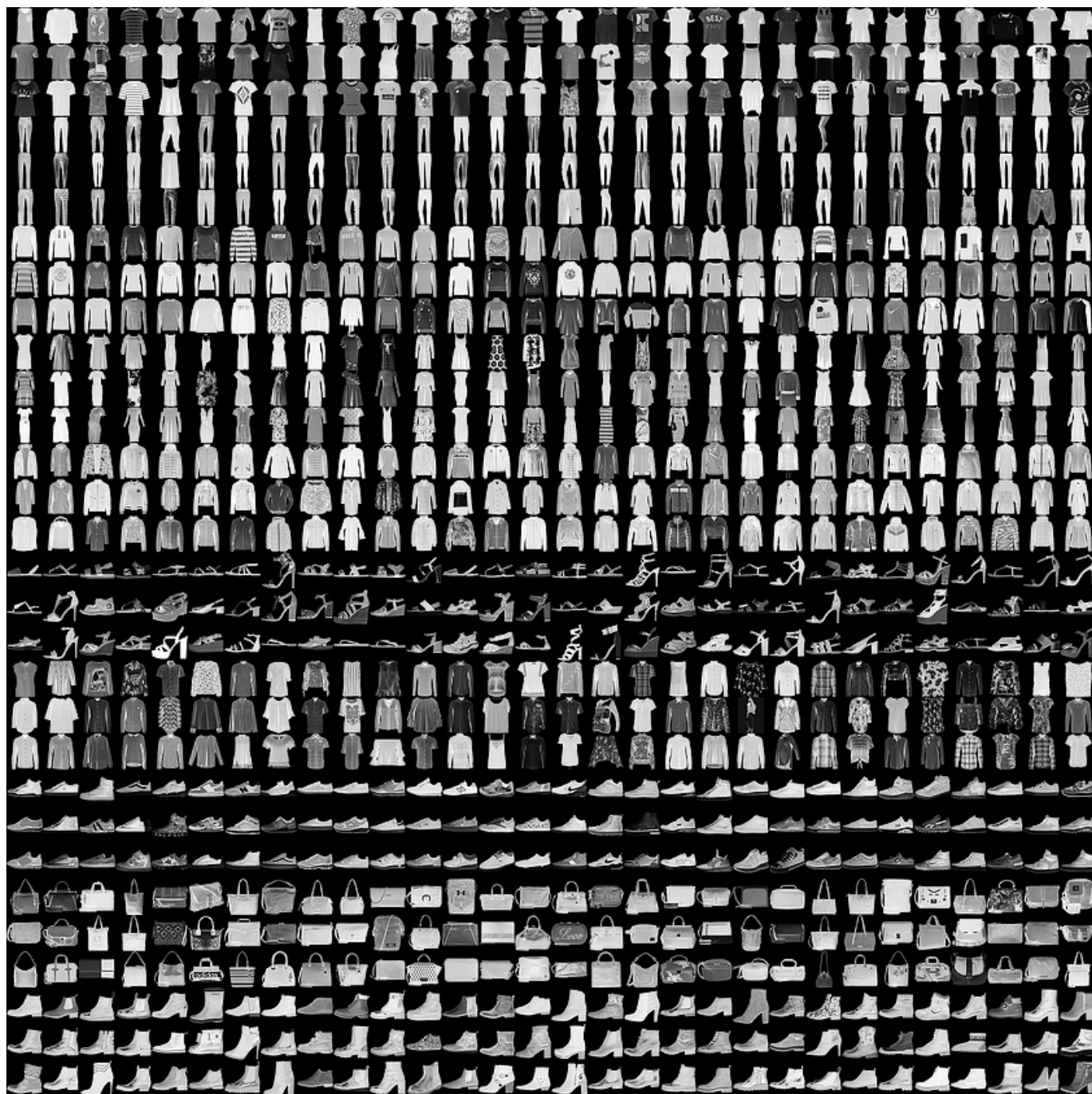
Keywords : #pytorch #分类 #实战

基础实战——FashionMNIST时装分类

数据集介绍

FashionMNIST数据集

FashionMNIST数据集中包含已经预先划分好的训练集和测试集，其中训练集共60,000张图像，测试集共10,000张图像。每张图像均为单通道黑白图像，大小为28*28pixel，分属10个类别。



本次实战没有遇到什么问题，主要是因为所使用的数据集、网络结构、具体任务都比较简单，代码量也都比较小。

但是在过程中我还是收获了很多知识，比如说网络结构搭建的规则、训练参数设置的技巧、结果如下所示：

```
Epoch: 1      Training Loss: 0.268449
Epoch: 1      Validation Loss: 0.057068, Accuracy: 0.981800
Epoch: 2      Training Loss: 0.073943
Epoch: 2      Validation Loss: 0.035796, Accuracy: 0.987800
Epoch: 3      Training Loss: 0.052537
Epoch: 3      Validation Loss: 0.030474, Accuracy: 0.989200
```

```
Epoch: 4      Training Loss: 0.042508
Epoch: 4      Validation Loss: 0.026520, Accuracy: 0.991500
Epoch: 5      Training Loss: 0.035499
Epoch: 5      Validation Loss: 0.026349, Accuracy: 0.991200
Epoch: 6      Training Loss: 0.030913
Epoch: 6      Validation Loss: 0.022135, Accuracy: 0.992000
Epoch: 7      Training Loss: 0.027241
Epoch: 7      Validation Loss: 0.021995, Accuracy: 0.992900
Epoch: 8      Training Loss: 0.022869
Epoch: 8      Validation Loss: 0.021141, Accuracy: 0.992500
Epoch: 9      Training Loss: 0.021894
Epoch: 9      Validation Loss: 0.019971, Accuracy: 0.993700
Epoch: 10     Training Loss: 0.020737
Epoch: 10     Validation Loss: 0.019363, Accuracy: 0.992900
Epoch: 11     Training Loss: 0.017129
Epoch: 11     Validation Loss: 0.020346, Accuracy: 0.993600
Epoch: 12     Training Loss: 0.016904
Epoch: 12     Validation Loss: 0.020827, Accuracy: 0.992900
Epoch: 13     Training Loss: 0.015159
Epoch: 13     Validation Loss: 0.019825, Accuracy: 0.994200
Epoch: 14     Training Loss: 0.013941
Epoch: 14     Validation Loss: 0.021533, Accuracy: 0.993400
Epoch: 15     Training Loss: 0.013948
Epoch: 15     Validation Loss: 0.022042, Accuracy: 0.993200
Epoch: 16     Training Loss: 0.012846
Epoch: 16     Validation Loss: 0.019770, Accuracy: 0.993400
Epoch: 17     Training Loss: 0.011409
Epoch: 17     Validation Loss: 0.018787, Accuracy: 0.993200
Epoch: 18     Training Loss: 0.011451
Epoch: 18     Validation Loss: 0.020755, Accuracy: 0.993200
Epoch: 19     Training Loss: 0.010547
Epoch: 19     Validation Loss: 0.018624, Accuracy: 0.994700
Epoch: 20     Training Loss: 0.009446
Epoch: 20     Validation Loss: 0.026274, Accuracy: 0.991900
```

由训练过程可以看到最终准确率在 **epoch=9** 时开始浮动，在 **epoch=19** 时达到最高。即在 **epoch=10** 左右的时候开始收敛。