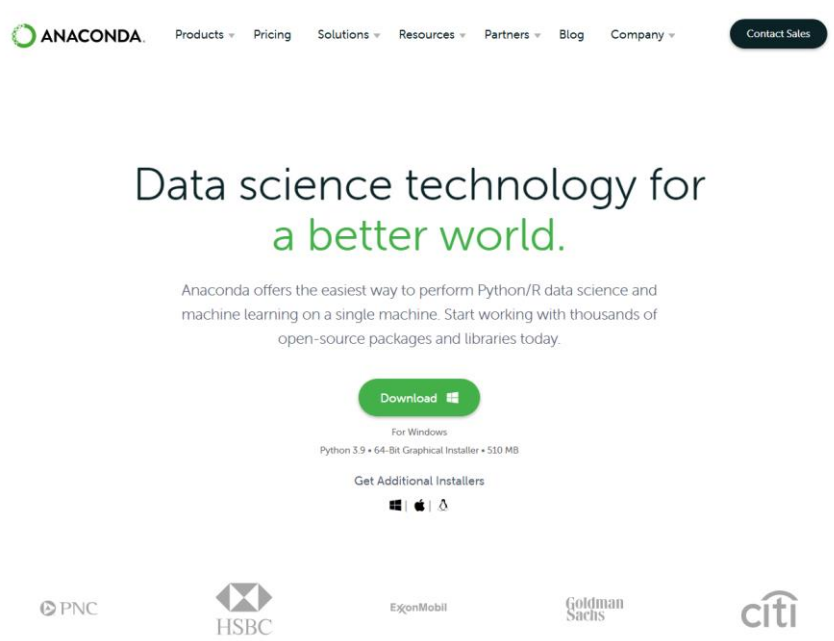
智能算法与应用
——实验

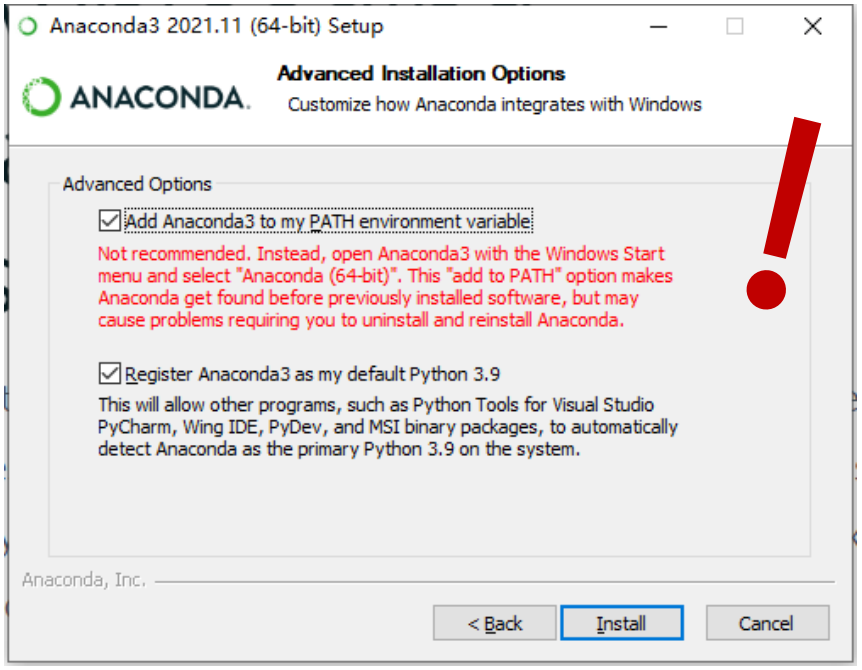
实验目标:

- 掌握pytorch等深度学习框架的环境搭建
- 掌握图像分类任务的训练和测试流程

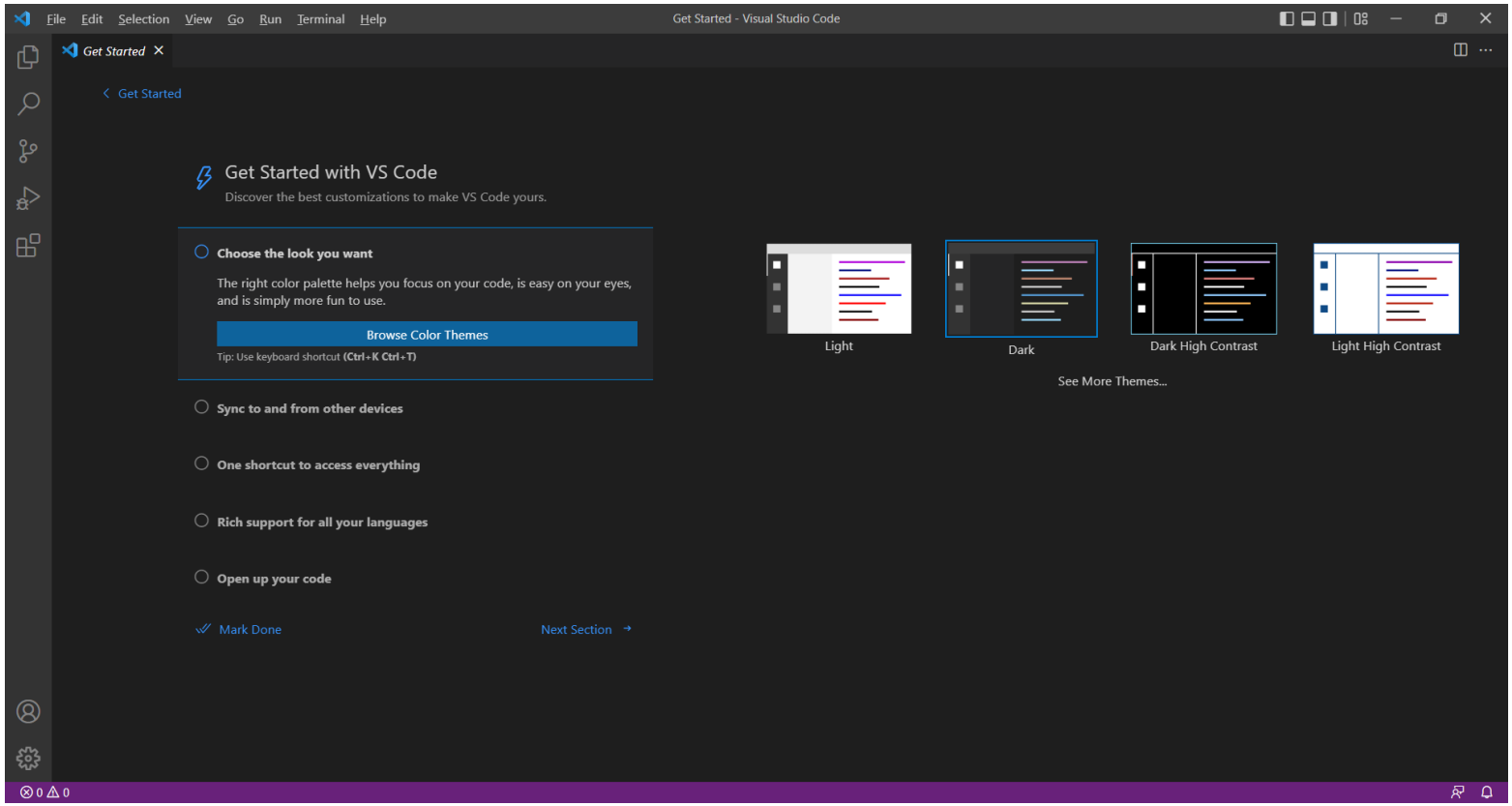
软件安装

- 1.下载并安装Anaconda3
- [Anaconda | The World's Most Popular Data Science Platform]



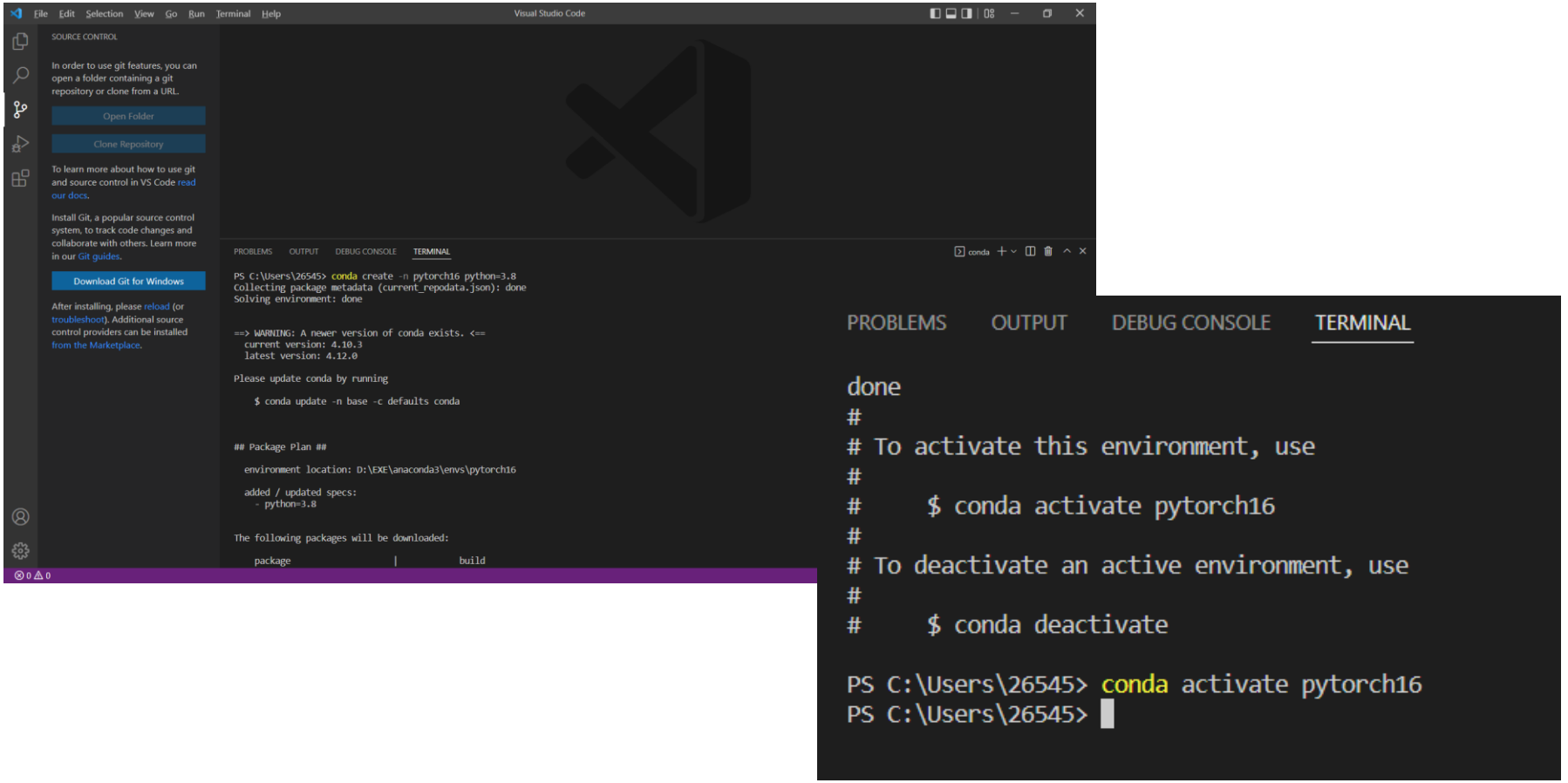


- 2. 安装Vscode
- [Download Visual Studio Code - Mac, Linux, Windows]

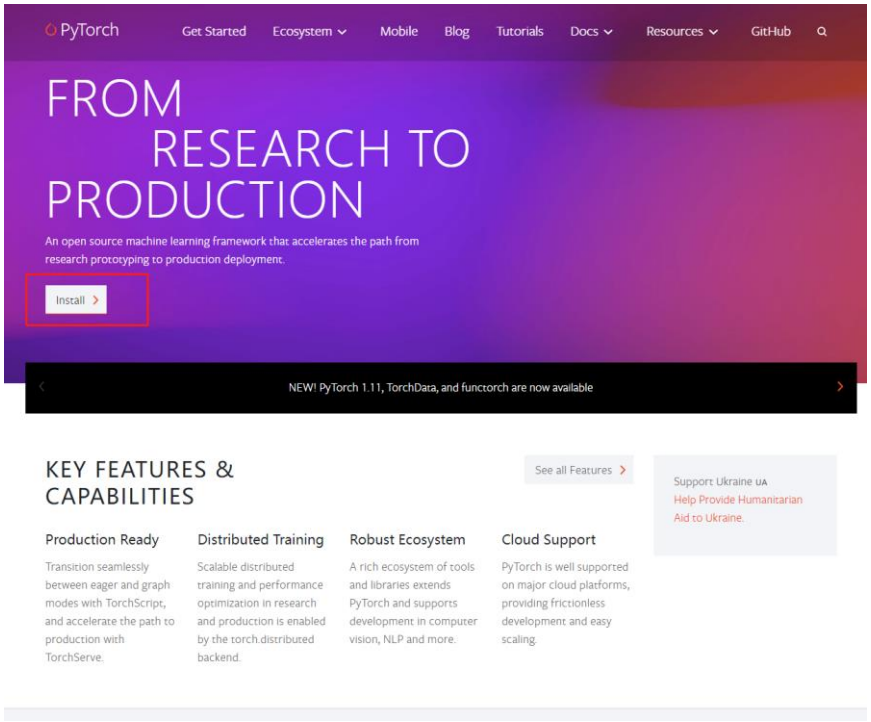


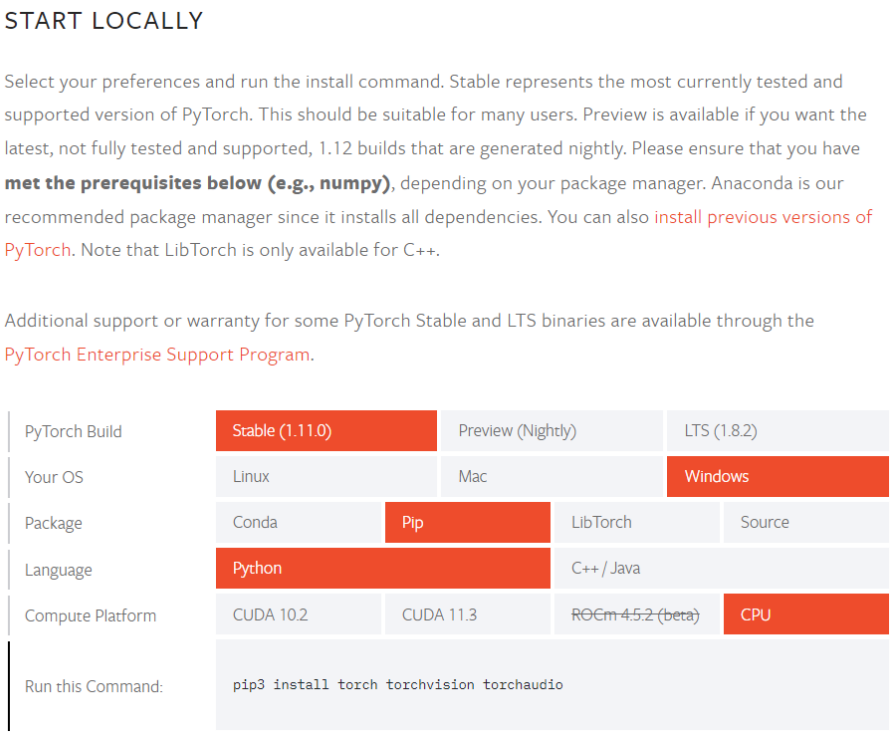
搭建环境

- conda create -n pytorch16 python=3.8
- conda activate pytorch16



- 安装pytorch（https://pytorch.org/）
- pip3 install torch torchvision





图像分类任务

- 完成MINIST数据集图像分类
- 加分tips：学习率自适应调整、代码注释等

```
PS D:\code\image clacification> python .\train_MINIST.py
Epoch: 0 Train_Loss: 0.31864601245323815 Train_Acc: 0.8939666666666667 Test_Acc: 0.9721
Epoch: 1 Train_Loss: 0.074824447772900026 Train_Acc: 0.9766666666666667 Test_Acc: 0.982
Epoch: 2 Train_Loss: 0.05210557825565338 Train_Acc: 0.9837 Test_Acc: 0.9853
Epoch: 3 Train_Loss: 0.044828504725794 Train_Acc: 0.9854666666666667 Test_Acc: 0.9854
Epoch: 4 Train_Loss: 0.036615774647394815 Train_Acc: 0.9883833333333333 Test_Acc: 0.9842
Epoch: 5 Train_Loss: 0.03483209688824912 Train_Acc: 0.9890166666666667 Test_Acc: 0.9876
```

评分标准

- 提交code和实验报告，ddl和提交形式会在群里通知
- 完成课程目标即可获得80分基础分，鼓励创新和更高的准确率，同时也鼓励大家在群里答疑，也会酌情给予加分
- 杜绝抄袭，一经发现按学校规章处理，雷同作业成绩均记为0分