

Readme - Image Retrieval

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In the process of completing the homework, I have gained a lot. I want to record the process of completing the homework and the method of running my program.

1.Install packages

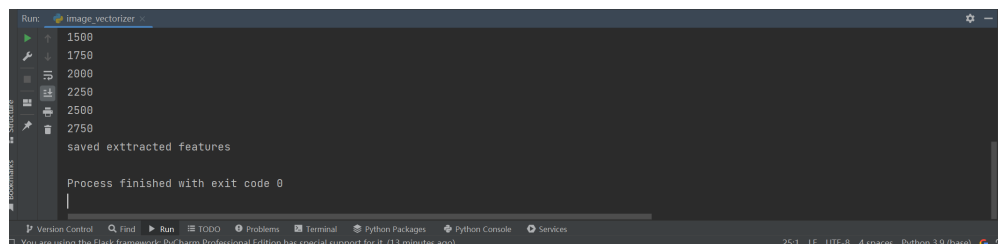
- First you need to install serval packages like Flask,numpy,tensorflow,Flask-HTTPAuth.Like following example pictures:

```
PS D:\大二下\Human_Computer_Interaction\HCI_Lab_3\2253744_林觉凯_Lab3\HCI_Lab3_code> pip install numpy
Requirement already satisfied: numpy in d:\anaconda\lib\site-packages (1.23.5)
PS D:\大二下\Human_Computer_Interaction\HCI_Lab_3\2253744_林觉凯_Lab3\HCI_Lab3_code> pip install flask
Requirement already satisfied: flask in d:\anaconda\lib\site-packages (1.1.2)
Requirement already satisfied: itsdangerous>=0.24 in d:\anaconda\lib\site-packages (from flask) (2.0.1)
Requirement already satisfied: Jinja2>=2.10.1 in d:\anaconda\lib\site-packages (from flask) (2.11.3)
Requirement already satisfied: click>=5.1 in d:\anaconda\lib\site-packages (from flask) (8.0.4)
Requirement already satisfied: Werkzeug>=0.15 in d:\anaconda\lib\site-packages (from flask) (2.0.3)
```

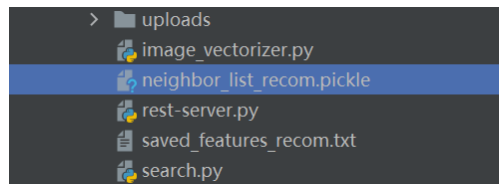
```
PS D:\大二下\Human_Computer_Interaction\HCI_Lab_3\2253744_林觉凯_Lab3\HCI_Lab3_code> pip install tensorflow
Requirement already satisfied: tensorflow in d:\anaconda\lib\site-packages (2.12.0)
Requirement already satisfied: tensorflow-intel==2.12.0 in d:\anaconda\lib\site-packages (from tensorflow) (2.12.0)
Requirement already satisfied: tensorboard<2.13,>=2.12 in d:\anaconda\lib\site-packages (from tensorflow-intel==2.12.0->tensorflow) (2.12.3)
Requirement already satisfied: packaging in d:\anaconda\lib\site-packages (from tensorflow-intel==2.12.0->tensorflow) (24.0)
Requirement already satisfied: termcolor>=1.1.0 in d:\anaconda\lib\site-packages (from tensorflow-intel==2.12.0->tensorflow) (2.4.0)
Requirement already satisfied: flatbuffers>=2.0 in d:\anaconda\lib\site-packages (from tensorflow-intel==2.12.0->tensorflow) (24.3.25)
Requirement already satisfied: google-pasta>=0.1.1 in d:\anaconda\lib\site-packages (from tensorflow-intel==2.12.0->tensorflow) (0.2.0)
Requirement already satisfied: six>=1.12.0 in d:\anaconda\lib\site-packages (from tensorflow-intel==2.12.0->tensorflow) (1.16.0)
```

2.Run server/image_vectorizer.py

- Run image vectorizer which passes each data through an inception-v3 model and collects the bottleneck layer vectors and stores in disc. Like this:



- This will generate two files namely, image_list.pickle and saved_features.txt. Keep them inside lib folder where search.py script is available.



3.Run server/rest-server.py

- Start the server by running rest-server.py. This project uses flask based REST implementation for UI.For example,the following picture show the url is 100.80.80.21:5000:

4.Get the UI by accessing the url

- Once the server starts up, access the url to get the UI. Now you can use my Image Retrieval System!For more on the use of this system please see 2253744_林觉凯_Lab3_report.pdf!

