Visual studio 2017

OpenCV-3.4.3

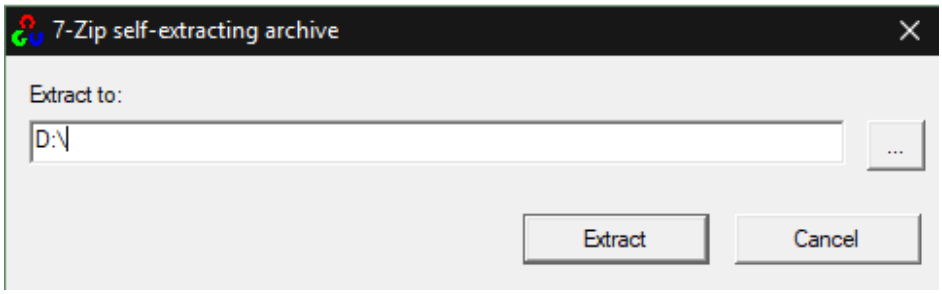
Dlib-19.15

Install visual studio 2017

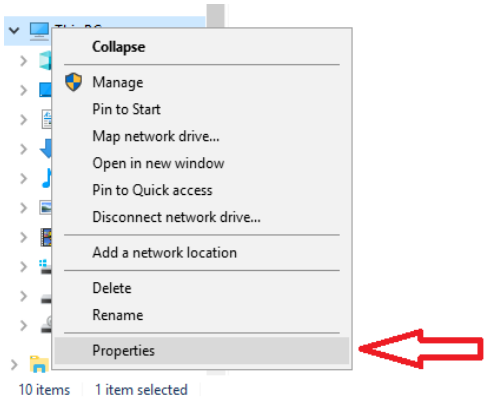
- Install visual studio (download from officcal webside: https://visualstudio.microsoft.com)
- Install C++

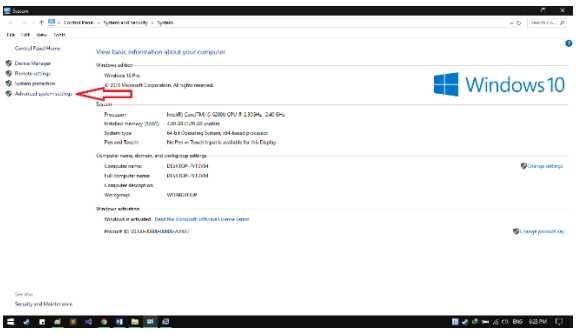
Install opencv

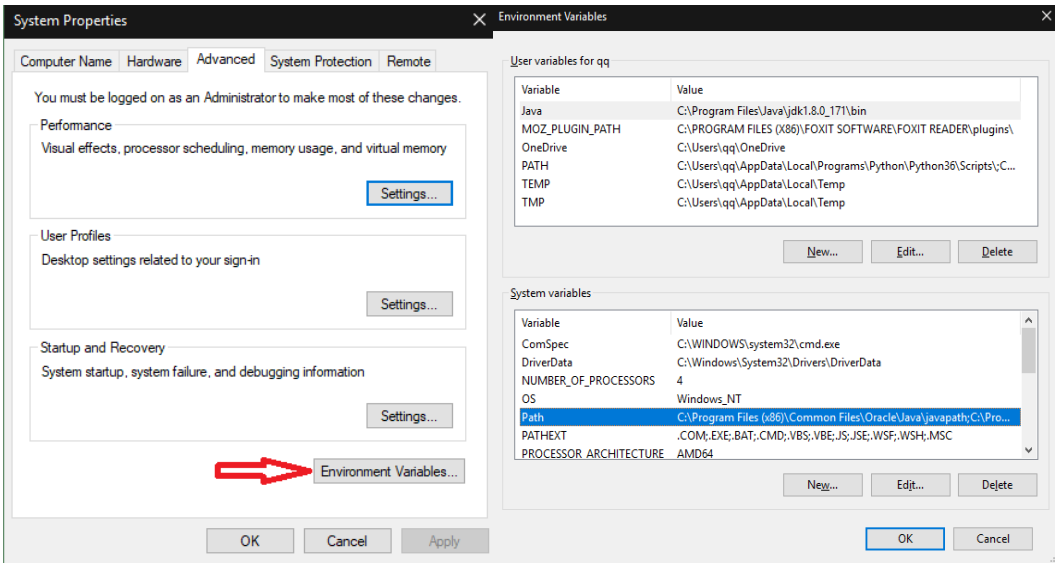
- Dowload opencv from officcal webside : https://opencv.org
- Install openCV (install after openCV 3.0 for eye glance project)
- Extract openCV in your favorite path(e. g. D:\)



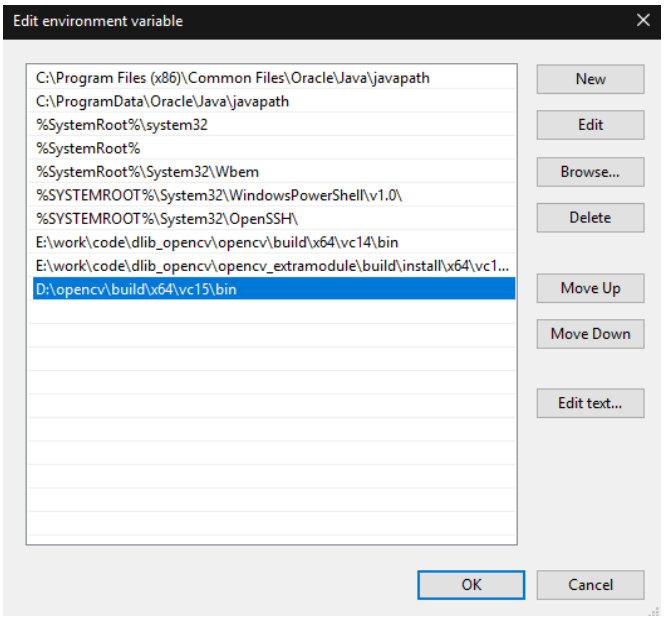
- Setup openCV in enviroment: Right click This PC -> Properties -> Advanced system settings -> Enviroment Variables, find Path in System variables





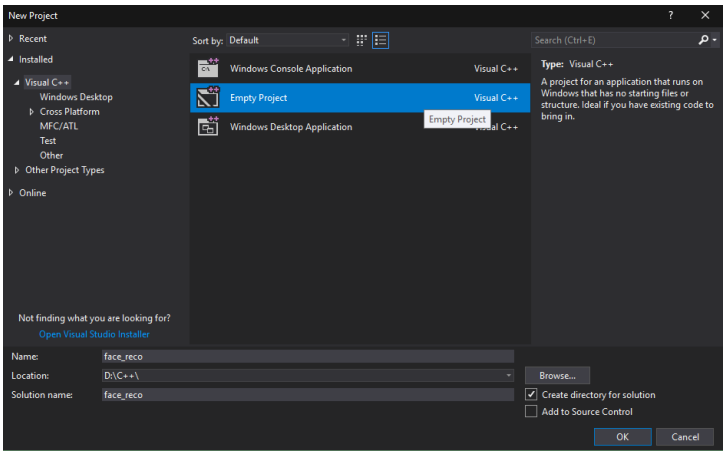


- Set the enviroment of openCV ：D:\opencv\build\x64\vc15\bin

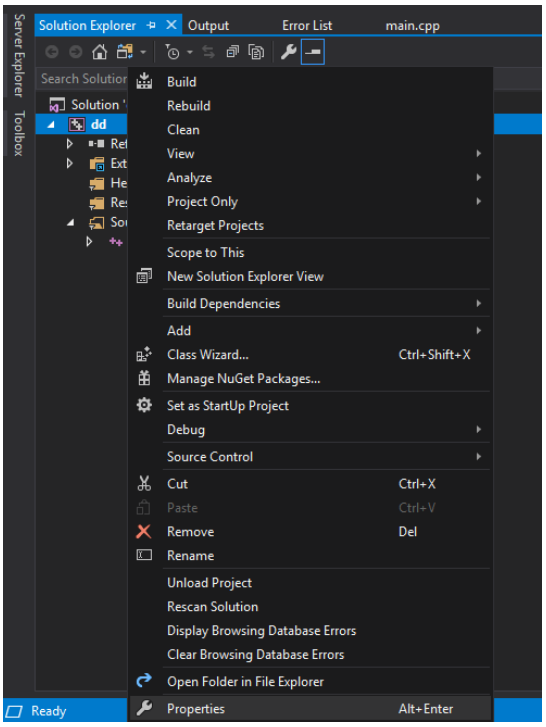


Add opencv to your project

- Open visual studio, creat a new Empty project, chose your favorite path.



- Link the onpenCV to your project: Right click in your project -> Properties



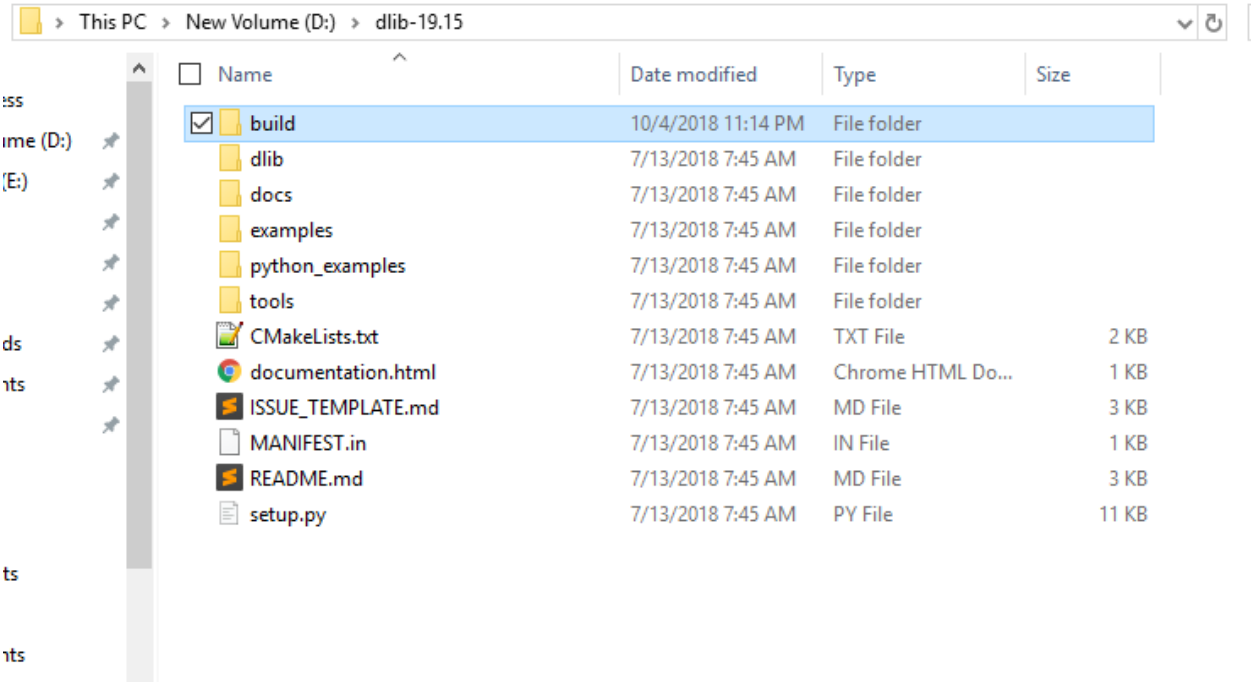
- add a source code to your project
- VC++ Directories:
  -add Include Directories: D:\opencv\build\include
  -add Library Directories: D:\opencv\build\x64\vc15\lib
- Linker -> Input add Additional Dependencies:

  -“opencv_world343d.lib” for Debug mode

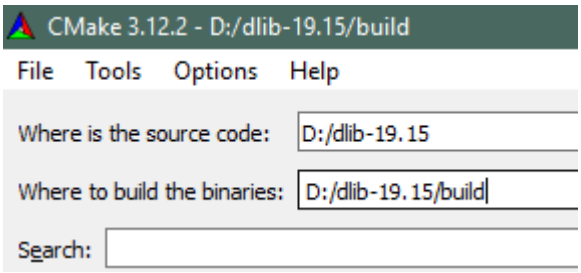
  -“opencv_world343.lib” for Release mode.

Install dlib

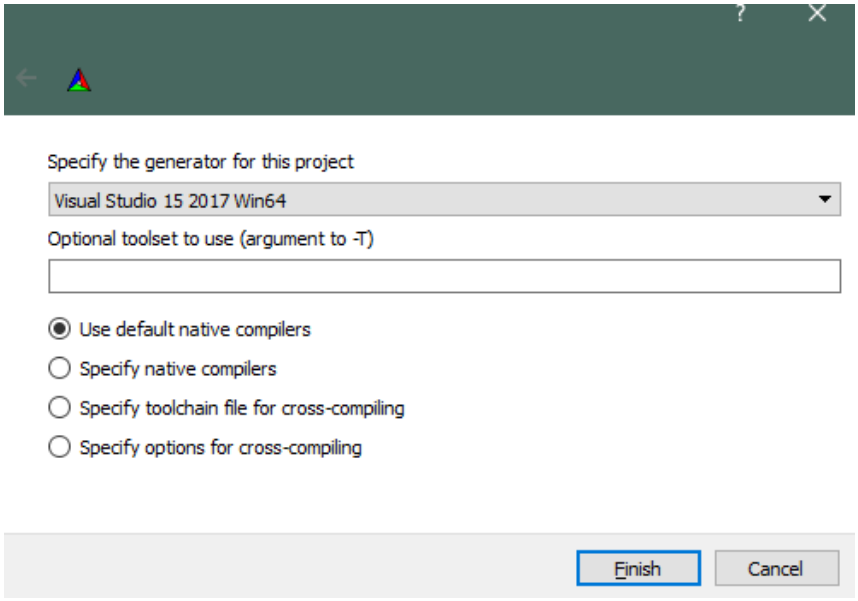
- Download dlib from official page: http://dlib.net
- Unzip it in your favorite path(D:\dlib-19.15)
- Go to the dlib foder , creat a new folder build

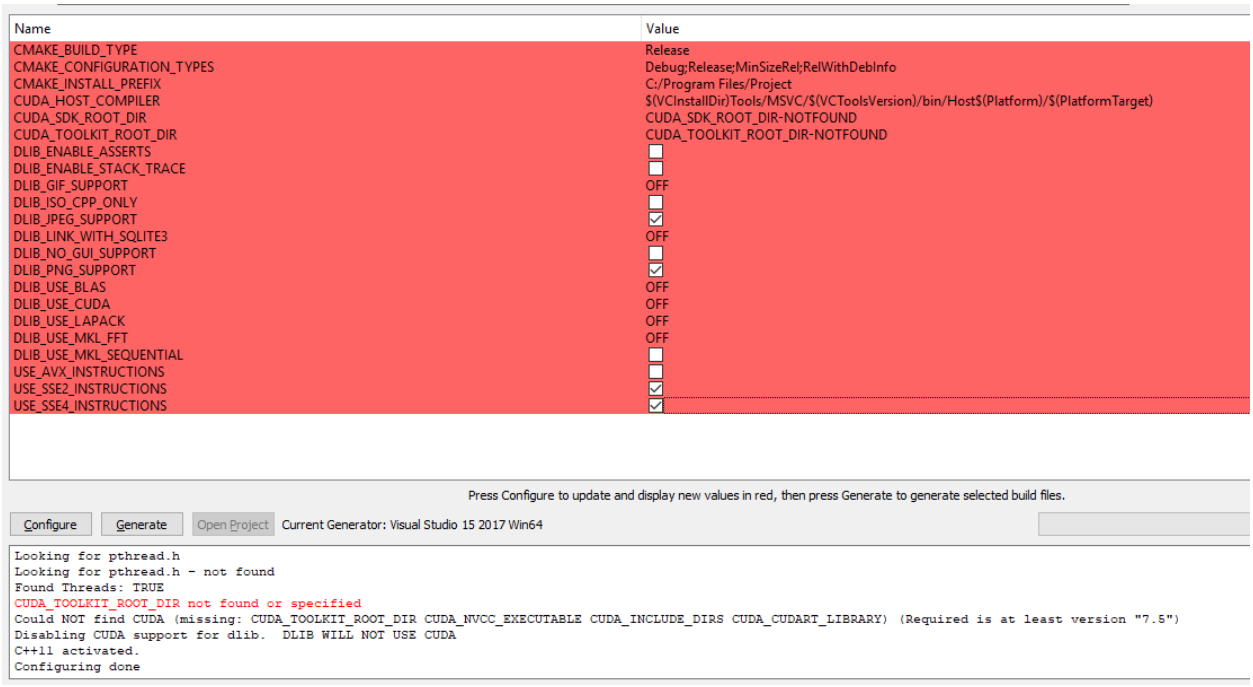


- Download cmake-gui: https://cmake.org/download
- Unzip it in your favorite path(e.g D:\cmake-3.12.2-win64-x64)
- Open cmake D:\cmake-3.12.2-win64-x64\bin\cmake-gui.exe

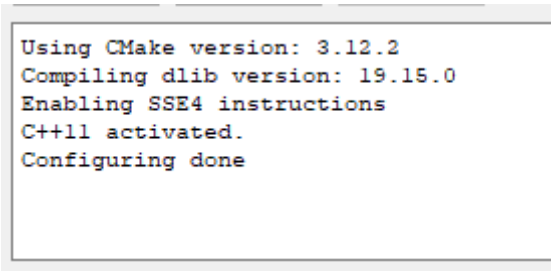


- Choose source D:/dlib-19.15
- Choose build : D:/dlib-19.15/build
- Click configure -> Fininsh





- Click use USE_SSE2_INSTRUCTIONS, USE_SSE4_INSTRUCTIONS, Click configure again



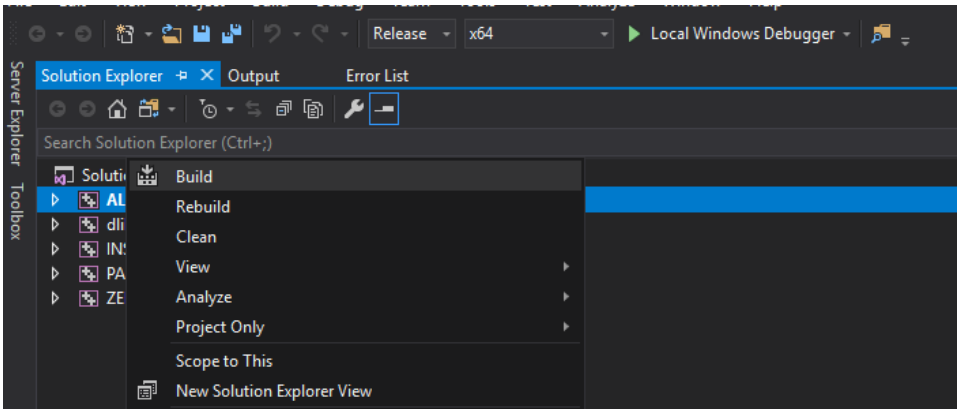
- Click generate

```
Using CMake version: 3.12.2
Compiling dlib version: 19.15.0
Enabling SSE4 instructions
C++11 activated.
Configuring done
Generating done
```

Done

Build dlib with visual stuido

- Open the project D:\dlib-19.15\build\Project.sln
- Choose build in Release and x64 then build



Link dlib to your project

- Open your project you made before, open Property Pages(Alt + Enter)
- VC++ Directories:

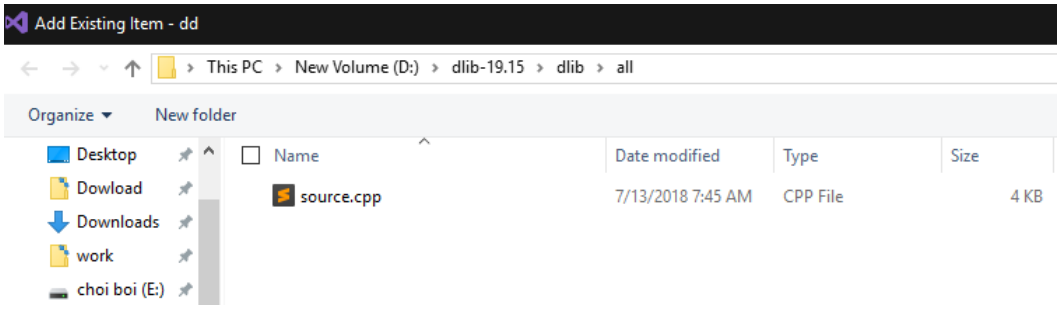
  -add Include Directories: D:\dlib-19.15

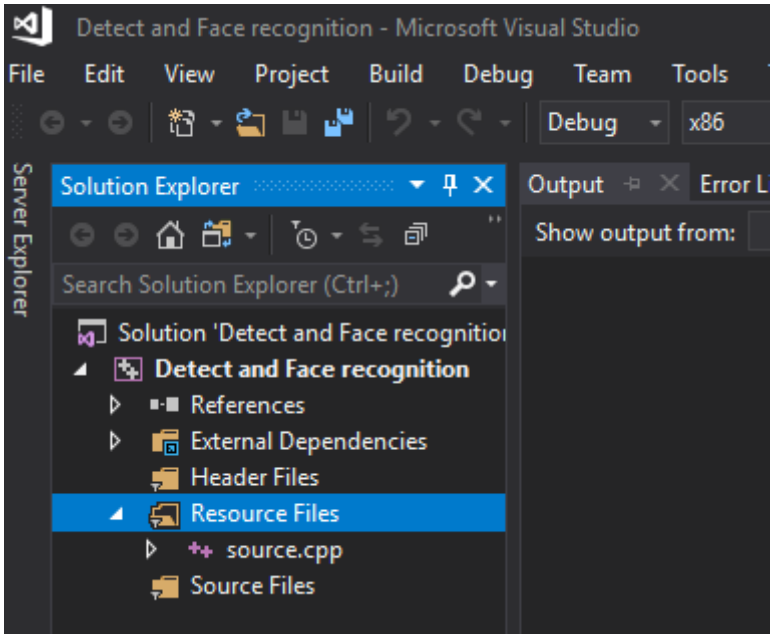
  -add Library Directories: D:\dlib-19.15\build\dlib\Release

- Linker -> Input:

  -add Additional Dependencies: dlib19.15.0_release_64bit_msvc1915.lib

- Add D:\dlib-19.15\dlib\all\Source.cpp to your Source Files(Header Files, Resource Files or Source Files)

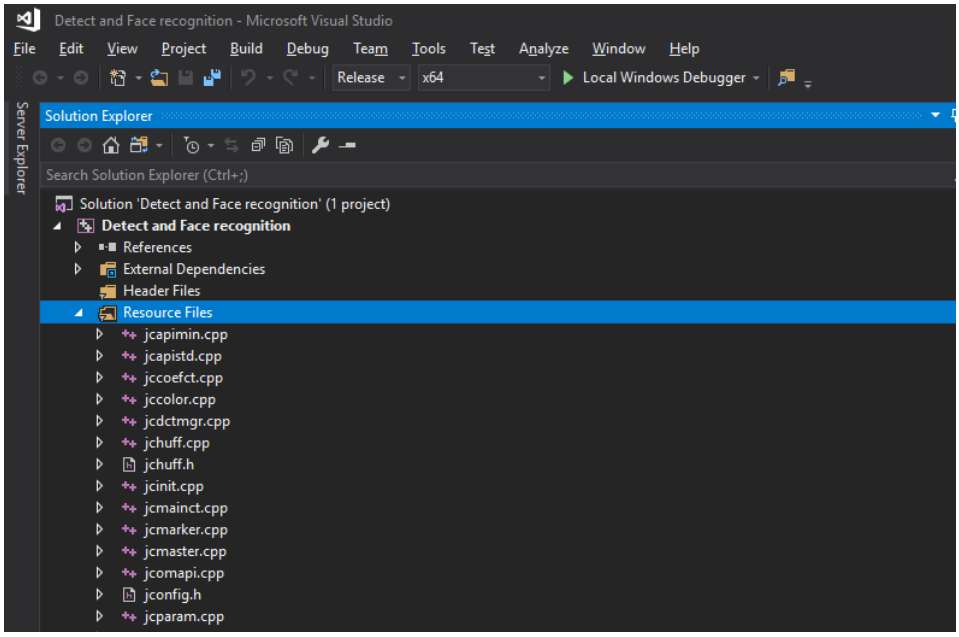




- Run project with dlib in Release mode, x64.

Use image jpg in project with dlib

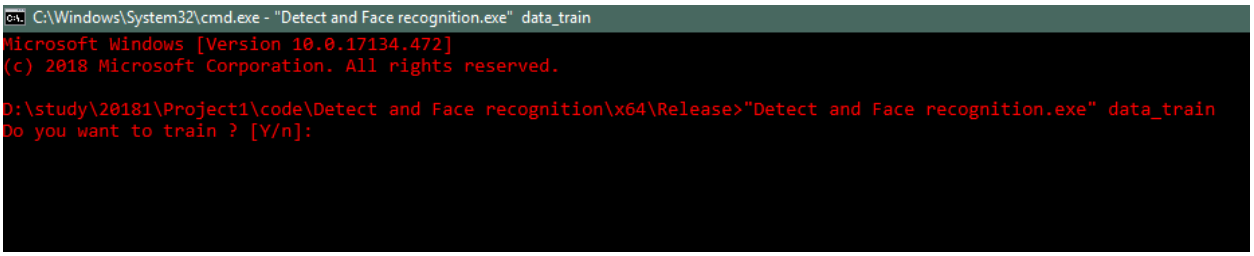
- Add all file in folder D:\dlib-19.15\dlib\external\libjpeg to your project(Header Files, Resource Files or Source Files)



- Right click in your project -> Properties:
  -C/C++ -> Preprocessor -> Preprocessor Definitions -> Add: DLIIB_JPEG_SUPPORT
- If you want use image png file, do the same.

Detect and Face recognition

- Link source code: https://github.com/freedom1810/Detect-and-Face-recognition
- How to use:
  -Download source code to your comuper
  -Creat a new empty projcet
  -Link project to opencv and dlib you installed.
  -Copy all code file(.h, .cpp) you downloaded to your project
- Build it in Release mode and x64.
- Copy folder data_train, dlib_face_recognition_resnet_model_v1.dat, shape_predictor_5_face_landmarks.dat to folder: ..\x64\Release
- Open command line in this folder and call this program like this:
  "Detect and Face recognition.exe" data_train



- True Y to train your model, it will be save to svm.dat. If you have trained it, no need to do it again.
- Camera will be opened, turn off the camera it will be detect and recognition your face.(It will need data your face in folder data_train(which each person we need 11 picture, each picture has same size(150 x 150))
- This program will expect to be given a directory structured as follows:

  data_train/

  person1/

  image1.jpg

  image2.jpg

  image3.jpg

  person2/

  image4.jpg

  image5.jpg

  image6.jpg

  person3/

  image7.jpg

  image8.jpg

  image9.jpg

- It already 6 people in folder data_train, add picture of who you want to recognition and retrain model.