Description:

Compile *64 bit* dlib library with *AVX instruction* enabled since *AVX/SSE2/SSE4* instructions has a significant impact on the performance. It's one of the significant steps that make projects with dlib library a real time system. You can also download some compiled Dlib library online. Just remember to check if the *AVX/SSE2/SSE4* are enabled during the compilation.

Date: July 14, 2018

Operating System:

Windows 10

Steps

Step 1: Install CMake: https://cmake.org/download/

Step 2: Install Visual Studio 2015: https://msdn.microsoft.com/en-us/library/dd831853.aspx

Step 3: Download Dlib library *dlib-19.14.zip* from official website: https://sourceforge.net/projects/dclib/files/dlib/

Step 4: Unzip the downloaded file.

Step 5: Open command prompt and change current folder to *dlib-19.14*

```
cd /Downloads/dlib-19.14
```

Step 6: Create new folder *build* under *dlib-19.14*

```
mkdir build
```

Step 7: Change current folder to *dlib-19.14/build* and compile the library. We enable the AVX instructions for superior performance by *-DUSE_AVX_INSTRUCTIONS=ON*. Remember to put *"Visual Studio 14 2015 Win64"* to change from default 32 bit to 64 bit.

```
cd build

cmake -G "Visual Studio 14 2015 Win64" -DJPEG_INCLUDE_DIR=../dlib/external/libjpeg
-DJPEG_LIBRARY=../dlib/external/libjpeg -DPNG_PNG_INCLUDE_DIR=../dlib/external/libpng
-DPNG_LIBRARY_RELEASE=../dlib/external/libpng -DZLIB_INCLUDE_DIR=../dlib/external/zlib
-DZLIB_LIBRARY_RELEASE=../dlib/external/zlib -DUSE_AVX_INSTRUCTIONS=ON
-DDLIB_USE_CUDA=OFF -DCMAKE_INSTALL_PREFIX=install ..
```

Step 8: Build

```
cmake --build . --config Release --target INSTALL
```

Step 9: Check if following folder and files are generated. Now you can setup your Dlib project by linking to the contents under *dlib-19.14/build/install*

\dlib-19.14\build\install\include
\dlib-19.14\build\install\lib\dlib19.14.0_release_64bit_msvc1900.lib