Machine Vision

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What is OpenCV?

OpenCV (Open Source Computer Vision) is a library of programming functions mainly aimed at real time computer vision.

- Being developed at Intel since 1999.
- Written in C/C++; Contains over 500 functions.
- Available on Windows, Linux and MacOSX.
- So far is extensively used in many companies and research centers.
OpenCV and Visual Studio 2005
Create a Win32 Console Application

The image shows a screenshot of Visual Studio with a new project creation window open. The project type selected is 'Win32 Console Application'. The dialog box shows the project name 'HelloWorld' and the location is set to 'C:\Documents and Settings\Brian\My Documents\Visual Studio 2005\Projects'. The solution name is also set to 'HelloWorld'. The 'Browse' button is available to select a different location if needed.
Select Empty Project in additional Option
Done Creating the Project

Welcome to the Win32 Application Wizard

These are the current project settings:
- Console application

Click Finish from any window to accept the current settings.

After you create the project, see the project's readme.txt file for information about the project features and files that are generated.
Your project should be like this snapshot
Create a new Item, like below figure
Select C++ File in Templates list and give a name
Modify the Project Properties
Select "All Configuration" item for Debug and Release Mode
Go to Configuration Properties / C/C++ / General / Additional Include

Directories

```
Specify one or more directories to add to the include path; use semi-colon delimited list if more than one.
```

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Enter the path to your include files

"C:\Program Files\OpenCV\otherlibs\ffopencv"
"C:\Program Files\OpenCV\otherlibs\highgui"
"C:\Program Files\OpenCV\cv\include"
"C:\Program Files\OpenCV\cvaux\include"
"C:\Program Files\OpenCV\cxcore\include"
Go to Configuration Properties / Linker / Input / Additional Dependencies
Enter OpenCV lib path in additional library list

```
"C:\Program Files\OpenCV\lib\cv.lib"
"C:\Program Files\OpenCV\lib\cxcore.lib"
"C:\Program Files\OpenCV\lib\cvaux.lib"
"C:\Program Files\OpenCV\lib\highgui.lib"
```
Write a simple code as a HelloWord!

```c
#include "cv.h"
#include "highgui.h"

int main( int argc, char** argv )
{
    CvImage img(argc > 1 ? argv[1] : "lena.jpg", 0, CV_LOAD_IMAGE_COLOR);

    if( !img.data() ) // check if the image has been loaded properly
        return -1;

    cvNamedWindow( "Lena Image", CV_WINDOW_AUTOSIZE );
    img.show( "Lena Image" );
    cvWaitKey();

    return 0;
    // all the images will be released automatically
}
```
Result

You must copy **CV DLL** to your release/debug folder, also **lena** picture!
Thank you for your attention

References:


[2] Vadim Pisarevsky, "Getting Started with OpenCV"