Installation Cheat Sheet 3 - Emgu CV 3 (for Visual Basic.NET or C#)
Using Windows 10 + Visual Studio 2015 + with precompiled binaries

Click here to go to the YouTube video for this Cheat Sheet

GitHub page with all Cheat Sheets and code

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1) Download and install Visual Studio 2015 Community Edition (yes, it's free, choosing all default options will work fine)

2a) Download the latest version of the Emgu CV 3 executable installer either without or with Cuda support, ex. "libemgucv-windows-universal-3.0.0.2157.exe" or "libemgucv-windows-universal-cuda-3.0.0.2158.exe"
2b) Run the installer (choosing all the defaults will work fine)

3a) Add bin\x86 directory to the PATH for your version of Emgu CV, for example add the following to PATH: C:\Emgu\emgucv-windows-universal 3.0.0.2157\bin\x86
3b) Pull up a Command Prompt and verify your PATH now includes the above directory, then reboot

4) From my MicrocontrollersAndMore GitHub page decide which example you are going to use:
CannyStill.vb (VB.NET, uses a still image)
CannyStill.cs (C#, uses a still image)
CannyWebcam.vb (VB.NET, uses a webcam)
CannyWebcam.cs (C#, uses a webcam)
RedBallTracker.vb (VB.NET, tracks a red ball, uses a webcam)
RedBallTracker.cs (C#, tracks a red ball, uses a webcam)

If you are going through this for the first time I suggest *CannyStill.vb*

5a) Start Visual Studio 2015
5b) Make a new project
5c) Choose Visual Basic or Visual C#, Windows Forms Application, name the project as you prefer, ex "CannyStill1", and choose your preferred project location. I recommend unchecking "Create directory for solution" and "Add to source control", then choose OK.
5d) Save the project (continue saving throughout as needed)

6) Rename your main form if desired, for example "frmMain". It's much better to do this now than later. When asked "Would like to perform a rename in this project of all references?" answer "Yes".

7a) Go to: "Project -> Add Reference -> Browse -> Browse..."
7b) Navigate to the Emgu bin directory, ex "C:\Emgu\emgucv-windows-universal 3.0.0.2157\bin"
7c) Highlight all DLLs ***except*** the DLLs that are for a different year Visual Studio, then choose Add, make sure all the DLLs you just choose are checked, then choose OK

8a) Go to: "Project -> Add Existing Item"
8b) Navigate to the Emgu bin\x86 directory, ex "C:\Emgu\emgucv-windows-universal 3.0.0.2157\bin\x86"
8c) Change viewable files to "All Files (*.*)" (drop down box in the lower right corner of the screen)
8d) Highlight all the DLLs and choose Add

9a) In Solution Explorer, highlight all the DLLs that were just added
9b) In the Properties window, set "Copy to Output Directory" to "Copy always"

10) The following will add the special Emgu controls to the Toolbox (you only have to do this once):
10a) Choose Design View (where you edit the form) if you are not in Design View already
10b) Bring up the Toolbox, the usual controls will be there (Button, Text Box, etc.)
10c) Expand "General"
10d) Right click in an empty area of General, choose "Choose Items . . ."
10e) ImageBox will not be listed yet
10f) Choose "Browse..."
10g) Navigate to the Emgu bin directory, ex "C:\Emgu\emgucv-windows-universal 3.0.0.2157\bin"
10h) Double click on "Emgu.CV.UI.dll" (or single click and choose OK)
10i) ImageBox should be listed now, check it if it is not already checked and choose OK
10j) Move ImageBox above the other Emgu controls, then move "General" to the top of the toolbox

11) Depending on which of the 6 examples you are doing above, add the applicable controls to the form (found in the comments section at the top of the source). For example if you are using CannyStill.vb or CannyStill.cs, add the following controls:
btnOpenFile (Button)
lblChosenFile (Label)
ibOriginal (Emgu ImageBox)
ibCanny (Emgu ImageBox)
ofdOpenFile (OpenFileDialog)

12a) You can use "Containers" to place components, or place components by coordinates and use code to resize the components when the form is resized. Oddly, the latter of these is often the most efficient option !!

13a) If your chosen example uses a button, for example btnOpenFile, verify the button is correctly named, then double click on the button in the design view. This will write the first and last lines of btnOpenFile_Click() for you.
13b) If your chosen example uses a frmMain_Resize event, go to ***Properties -> Events (lightning bolt icon) -> double click on "Resize"***, this will write the first and last lines of frmMain_Resize for you
13c) Perform similar steps to **13a)** and **13b)** for any other components that respond to events

14) Copy/paste the *remaining code only* (do **not** copy/paste over the entire file and do **not** change the code that Visual Studio wrote for you) from your chosen example, then run (with or without debugging)