

## Installation Cheat Sheet 3 - Emgu CV 2.4.10 (for Visual Basic.NET or C#)

### Using Windows 7 + Visual Studio 2013 + with precompiled binaries

(should also work with Windows 8/8.1, not tested though)

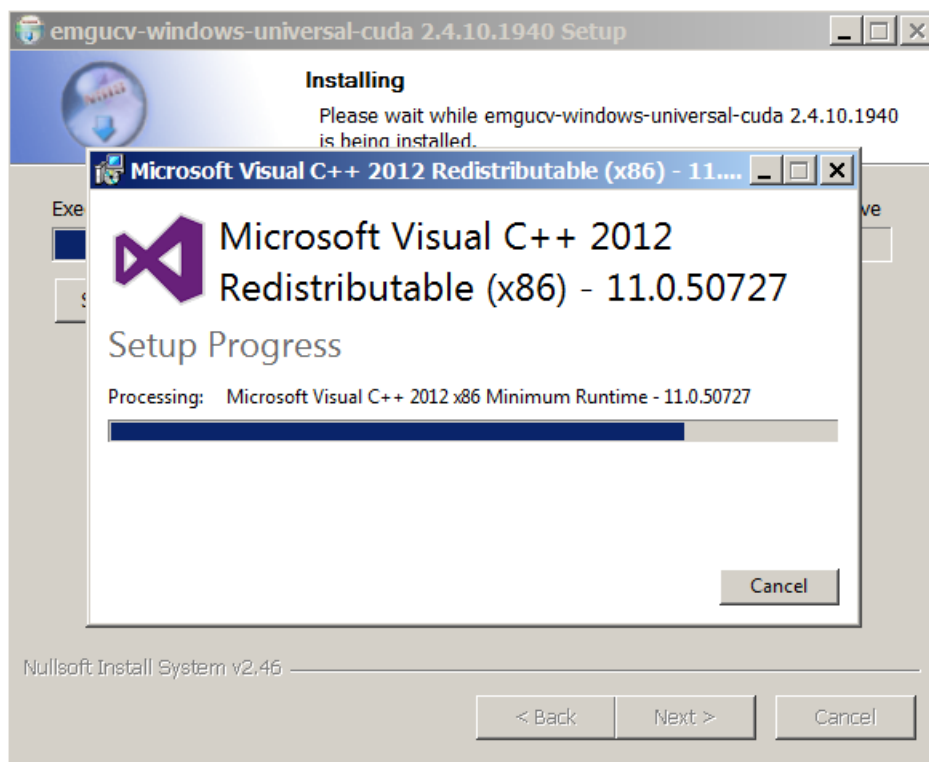
[Click here to go to the YouTube video for this Cheat Sheet](#)

[GitHub page with all Cheat Sheets and code](#)

**1a)** Download the Emgu CV 2.4.10 executable installer, i.e. "libemgucv-windows-universal-cuda-2.4.10.1940.exe" or "libemgucv-windows-universal-2.4.10.1940.exe"

**1b)** Run the installer (choosing all the defaults will work fine)

**1c)** About half way through the install the following screen should appear:



Verify the "Microsoft Visual C++ 2012 Redistributable (x86)" appears and completes successfully. If not, when running Emgu programs you will most likely get the "The type initializer for 'Emgu.CV.CvInvoke' threw an exception" error. If this does not install successfully you may need to go to Microsoft's site and install this manually. Note that the Redistributable is marked "2012" even though we are using Visual Studio 2013, this is ok. Since the Emgu installer now handles this step it is unlikely that you will experience concerns, however if you do it would be recommended to refer to the Emgu website/forums for further assistance.

**2a)** Add the following directory to your operating system PATH:

C:\Emgu\emgucv-windows-universal-cuda 2.4.10.1940\bin\x86

**2b)** Pull up a Command Prompt and verify your PATH now includes the above directory, then reboot

**3)** 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*

**4a)** Start Visual Studio 2013

**4b)** Make a new project

**4c)** 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.

**4d)** Save the project (continue saving throughout as needed)

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

**6a)** Go to: "Project -> Add Reference -> Browse -> Browse..."

**6b)** Navigate to "C:\Emgu\emgucv-windows-universal-cuda 2.4.10.1940\bin"

**6c)** Highlight the following 10 files:

Emgu.CV.DebuggerVisualizers.VS2013.dll  
Emgu.CV.dll  
Emgu.CV.GPU.dll  
Emgu.CV.ML.dll  
Emgu.CV.OCR.dll  
Emgu.CV.OpenCL.dll  
Emgu.CV.Stitching.dll  
Emgu.CV.UI.dll  
Emgu.CV.VideoStab.dll  
Emgu.Util.dll

Then choose Add, make sure they are all checked, then choose OK

**7a)** Go to: "Project -> Add Existing Item"

**7b)** Navigate to "C:\Emgu\emgucv-windows-universal-cuda 2.4.10.1940\bin\x86"

**7c)** Change viewable files to "All Files (\*.\*)" (drop down box in the lower right corner of the screen)

**7d)** Highlight all files that start "opencv\_" and end in ".dll", choose Add

**8a)** In Solution Explorer, highlight all the DLLs that were just added

**8b)** In the Properties window, set "Copy to Output Directory" to "Copy always"

**9)** The following will add the special Emgu controls to the Toolbox (you only have to do this once):

**9a)** Choose Design View (where you edit the form) if you are not in Design View already

**9b)** Bring up the Toolbox, the usual controls will be there (Button, Text Box, etc.)

**9c)** Expand "General"

**9d)** Right click in an empty area of General, choose "Choose Items"

**9e)** ImageBox will not be listed yet

**9f)** Choose "Browse..."

**9g)** Navigate to "C:\Emgu\emgucv-windows-universal-cuda 2.4.10.1940\bin"

**9h)** Double click on "Emgu.CV.UI.dll" (or single click and choose OK)

**9i)** ImageBox should be listed now, check it if it is not already checked and choose OK

**9j)** Move ImageBox above the other Emgu controls, then move "General" to the top of the toolbox

**10)** 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)

**11)** 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 !!

**12)** 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.

**13)** 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)