OPENCV

Mac Ox alternative to opencv installation

According to:

http://opencv.willowgarage.com/wiki/Mac_OS_X_OpenCV_Port
(Method 2)

If you do not have macports, install it

http://www.macports.org/install.php

On a new shell, install cmake

```
sudo port install cmake
```

Check out the openCV sourceCode

```
svn co https://code.ros.org/svn/opencv/trunk/opencv
```

From the opencv directory run Cmake

```
sudo cmake -G "Unix Makefiles"
```

```
sudo make -j8
```

```
sudo make install
```

Compile the application as:

```
gcc -o Ej2C ejemplo2ymedio.c -I/usr/local/include/opencv
-L/usr/local/lib -lopencv_core -lopencv_highgui -lopencv_ml
-lopencv_video -lopencv_imgproc -lopencv_calib3d
```

Windows installation on VS 2008

Download the 2.1 installer

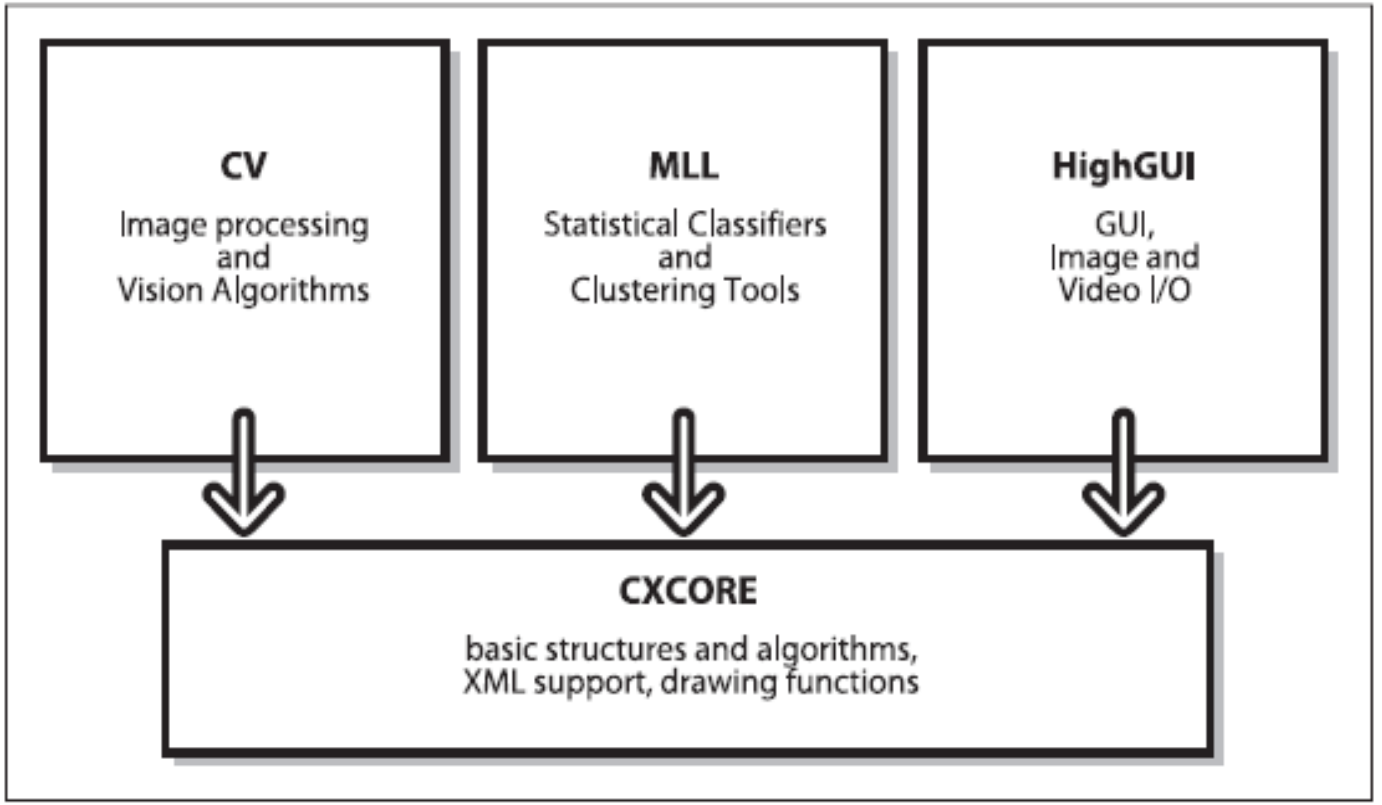
http://sourceforge.net/projects/opencvlibrary/files/opencv-win/2.1/OpenCV-2.1.0-win32-vs2008.exe/download

Restart the computer

Follow the instructions on;

http://opencv.willowgarage.com/wiki/VisualC%2B%2B_VS2010

Library structure



From: Learning OpenCV, Gary Bradsky & Adrian Kaebler O'Reilly 2008

Example 1. camera capture and GUI

Example 2. Simple image manipulation

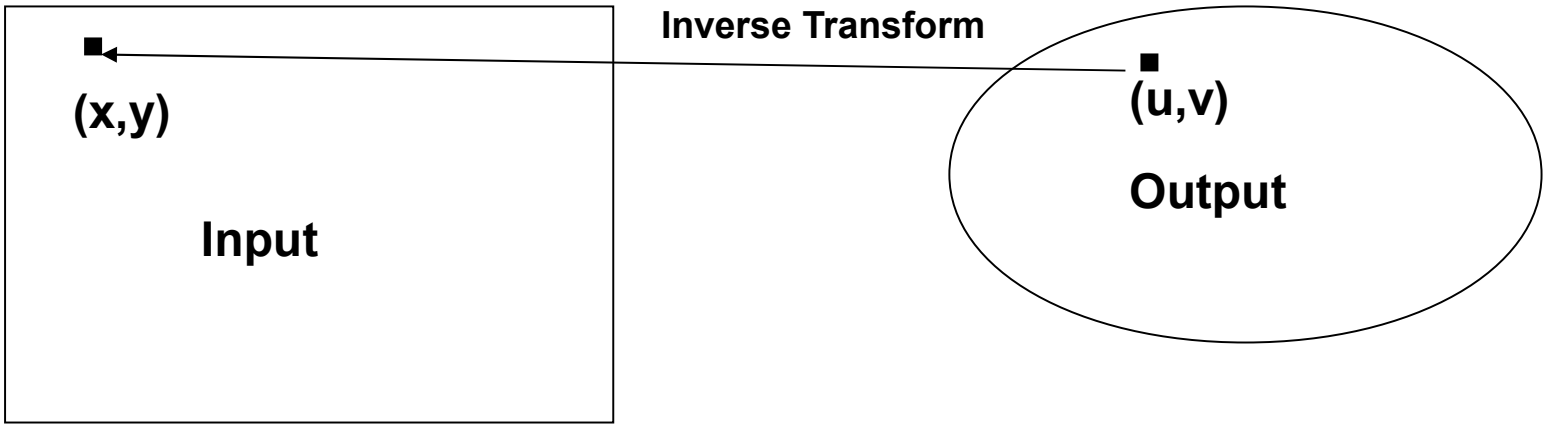
Example 3. RGB splitting

Example 4. Using masks

Example 5. Edges

Example 6. Pseudo color

Example 7 Non linear mapping

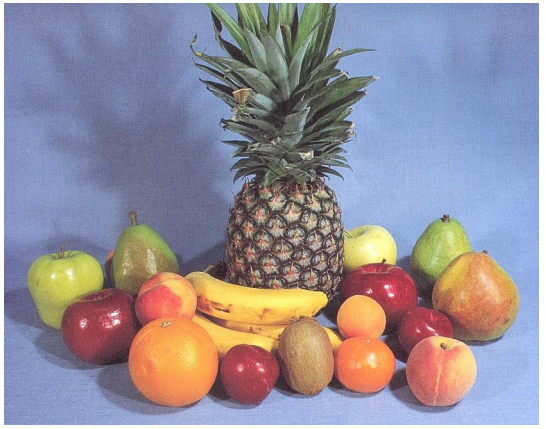


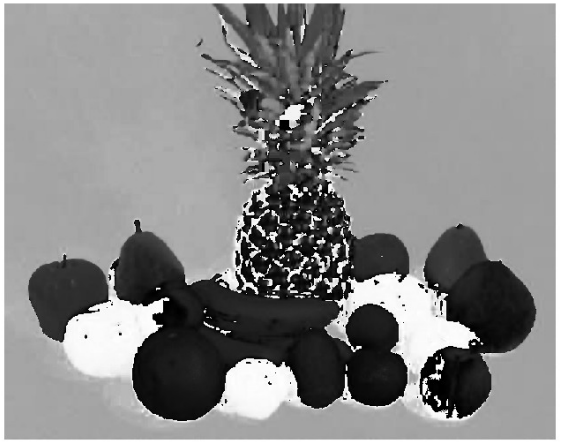
Example:

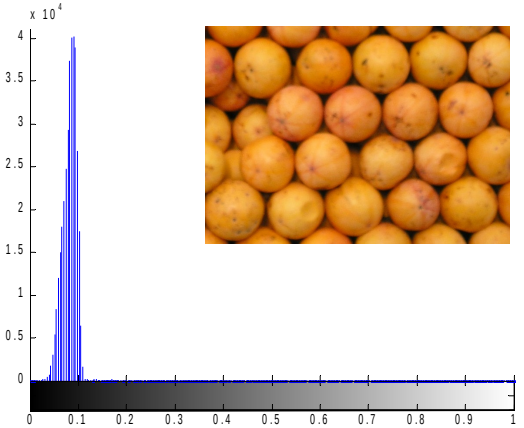
$$u = x\cos(y)$$

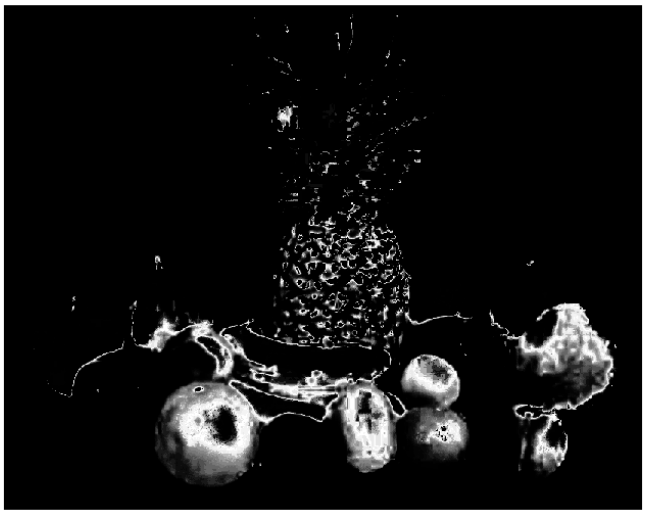
$$v = y$$

Example 8 Histogram Backpropagation



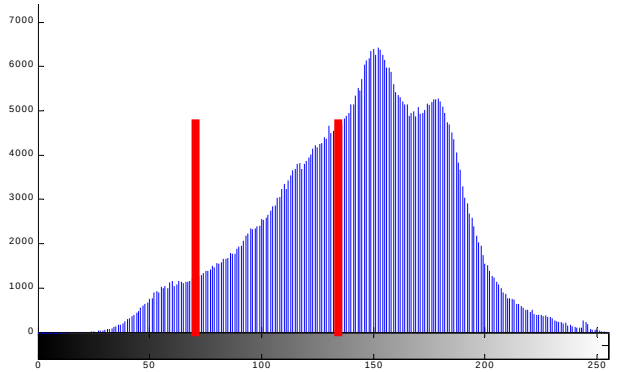




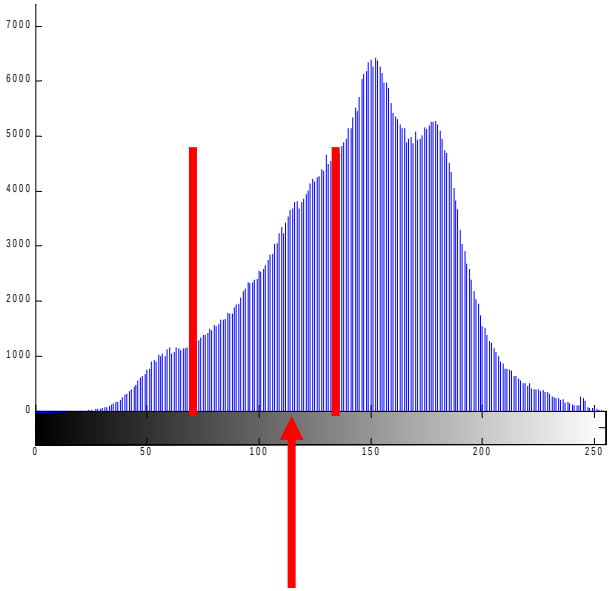


Ex9 Cam-shift color-Tracking

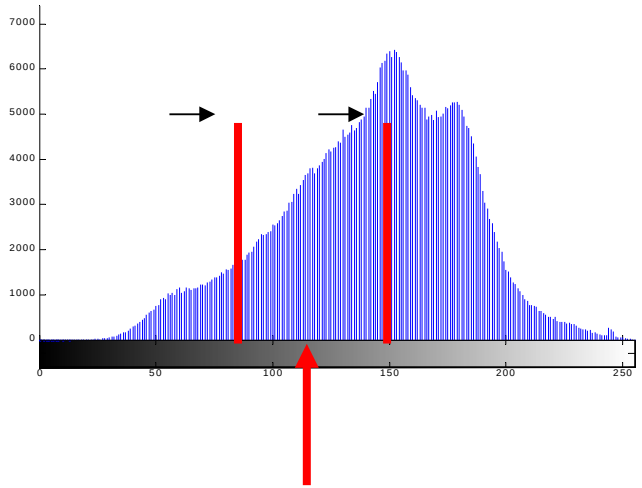
The mean-shift Algorithm:



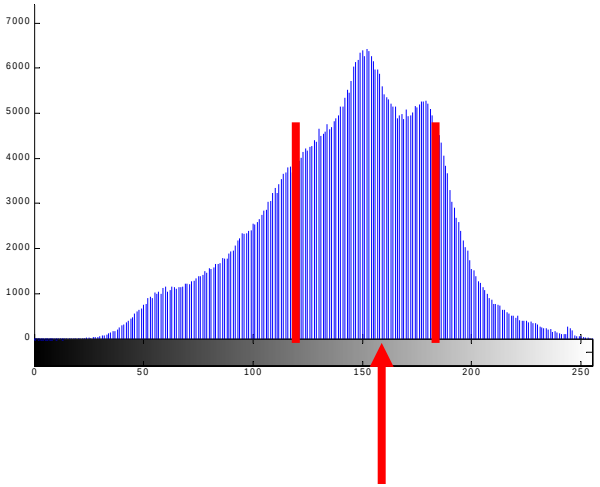
1. Define a window



2.find the mass center



3. Re-center the windows



repeat 2-3 to convergence

Cam-shift Algorithm

1. Find the object histogram.
2. Calculate the histogram backprojection on the search window.
3. Iterate the mean-shift algorithm to find the mode on *x* and *y dimensions*.
4. Update the center and window dimensions.
5. Go to step 2