Learn OpenCV by Examples

OpenCV simplified for beginners by the use of examples. Learn OpenCV with basic implementation of different algorithms.

Load, Display and Save an image

Mat **imread**(const string& filename, intflags=1)

Parameters:

- **filename** – Name of file to be loaded.
- **flags** –Flags specifying the color type of a loaded image:
  - CV_LOAD_IMAGE_ANYDEPTH - return 16-bit/32-bit image when the input has the corresponding depth, otherwise convert it to 8-bit.
  - CV_LOAD_IMAGE_COLOR(>0) - If set, always convert image to the color one
  - CV_LOAD_IMAGE_GRAYSCALE (0)- If set, always convert image to the grayscale one
  - CV_LOAD_IMAGE_UNCHANGED (<0) loads the image as is (including the alpha channel if present)

bool **imwrite**(const string& filename, InputArray img, const vector<int>&params=vector<int>())

Parameters:

- **filename** – Name of the file.
- **image** – Image to be saved.
- **params** – Format-specific save parameters encoded as pairs paramId_1, paramValue_1, paramId_2,

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2 Basic drawing examples

3 Line Detection by Hough Line Transform

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paramValue_2, ... The following parameters are currently supported:

- For JPEG, it can be a quality (CV_IMWRITE_JPEG_QUALITY) from 0 to 100 (the higher is the better). Default value is 95.
- For PNG, it can be the compression level (CV_IMWRITE_PNG_COMPRESSION) from 0 to 9. A higher value means a smaller size and longer compression time. Default value is 3.
- For PPM, PGM, or PBM, it can be a binary format flag (CV_IMWRITE_PXM_BINARY), 0 or 1. Default value is 1.

void **imshow**(const string& winname, InputArray mat)

Parameters:

- **winname** – Name of the window.
- **image** – Image to be shown.

Steps:

1. Load image using **imread**().
2. Display image using **namedWindow**() and **imshow**().
3. Save the image using **imwrite**().
4. Wait for keyboard button press using **waitKey**().

Example:

```
#include <opencv2/core/core.hpp>
#include <opencv2/highgui/highgui.hpp>
#include <iostream>

using namespace cv;
using namespace std;

int main( )
{

       Mat image;

       // LOAD image
       image = imread("image1.jpg", CV_LOAD_IMAGE_COLOR);   // Read
              //This file "image.jpg" should be in the project fold
              //Else provide full address : "D:/images/image.jpg"

       if(! image.data )  // Check for invalid input
       {
              cout <<  "Could not open or find the image" << std::e
              return -1;
```

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10 Hough Circle Detection

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```
        }

        //DISPLAY image
        namedWindow( "window", CV_WINDOW_AUTOSIZE ); // Create a win
        imshow( "window", image ); // Show our image inside it.

        //SAVE image
        imwrite("result.jpg",image);// it will store the image in na

        waitKey(0);                          // Wait for a keystroke in
        return 0;
}
```

Sources:
http://docs.opencv.org/doc/tutorials/introduction/display_image/display_image.html

Labels: Basics

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