

# 3

## Enhancing Images-- Supplementary Material

This is supplementary material for Chapter 3 of the book, **Python Multimedia Applications Beginners Guide**. Due to some publishing limitations, all the illustration images in this chapter were rendered black and white. This file contains the color version of the illustration images.

### Adjusting Brightness and Contrast

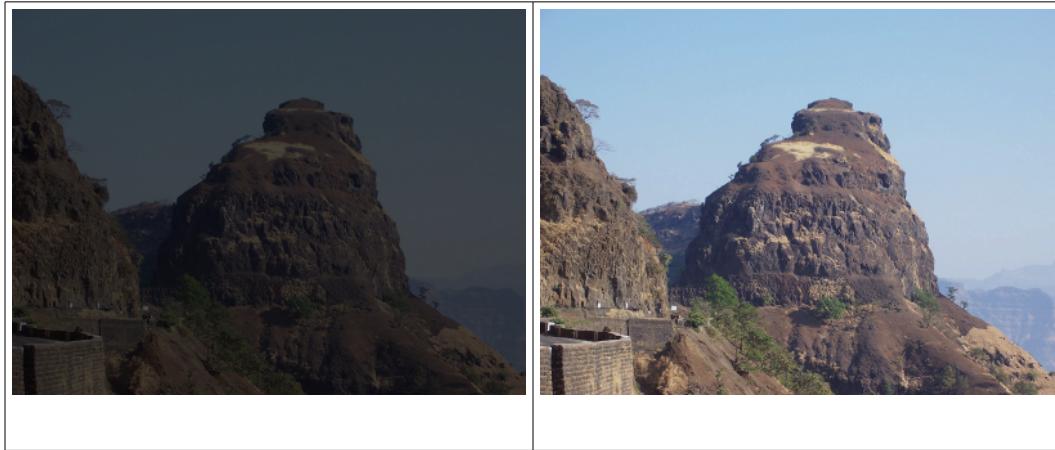


Illustration 1: Comparison of images before and after brightening



**Illustration 2: (A) Original image with the image (B) Increasing contrast**

## Tweaking Colors



Illustration 3: Original (left) and the color swapped image(right)

## Changing Individual Image Band



Illustration 4: Original (left) and the image with flower color changed (right)

## Gray Scale Images



Illustration 5: Original and gray scale images of a bridge

## Cook Up Negatives

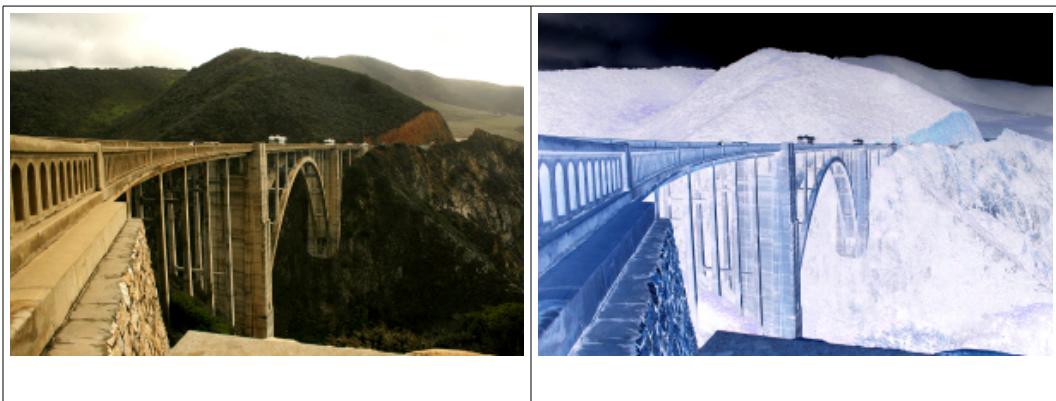
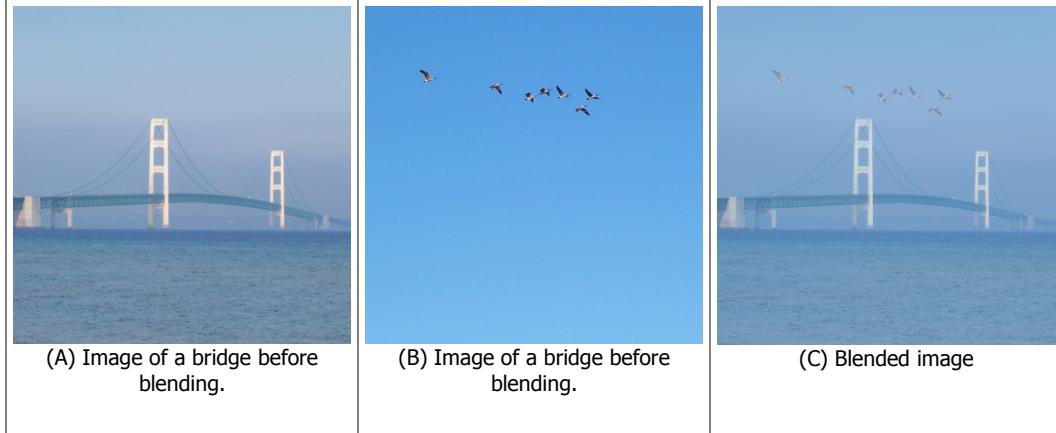


Illustration 6: Original image (left) and its negative (right)

## Blending

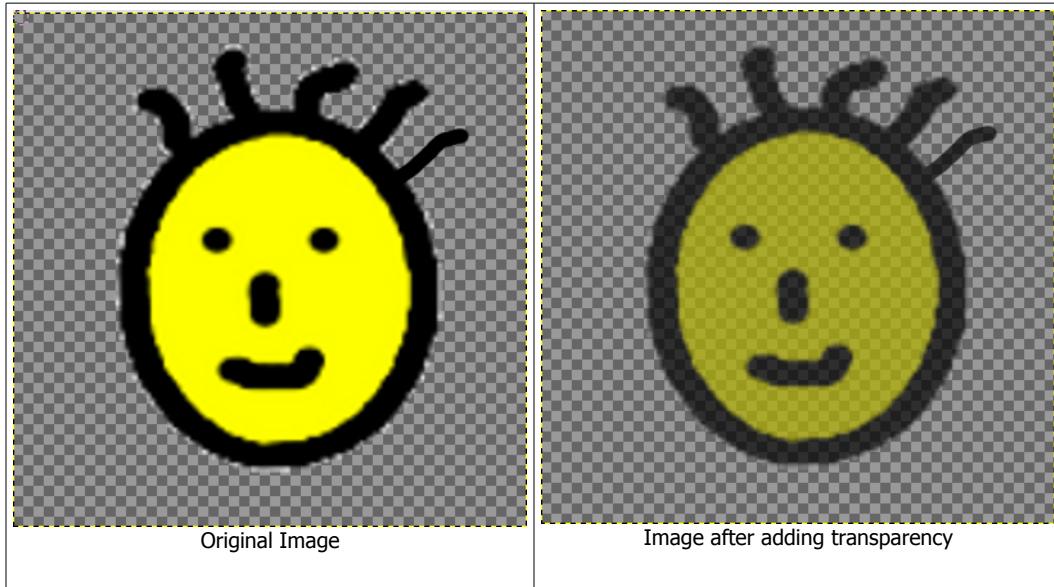


**Illustration 7:** Individual images of a bridge (A) and flying birds (B), before blending and the blended image (C).



**Illustration 8:** Blended gray scale image when both the input images have mode 'L'

## Creating Transparent Images



**Illustration 9: Image before and after adding transparency**

## Making Composites with Image Mask

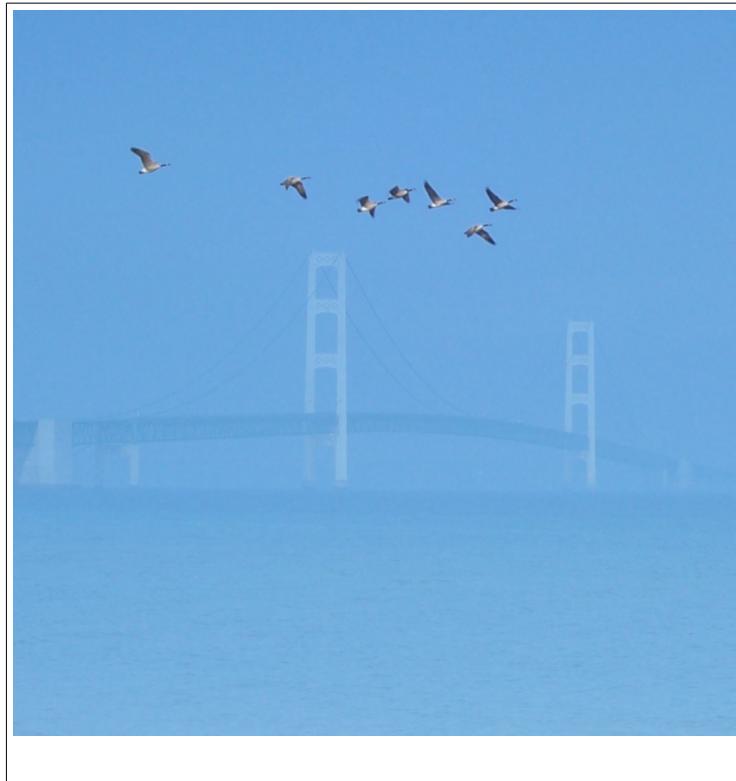


Illustration 10: Composite image with emphasis give on the image of flying birds

## Project: Watermark Maker Tool



Illustration 11: Resultant images using `Image.paste` operation created with and without mask

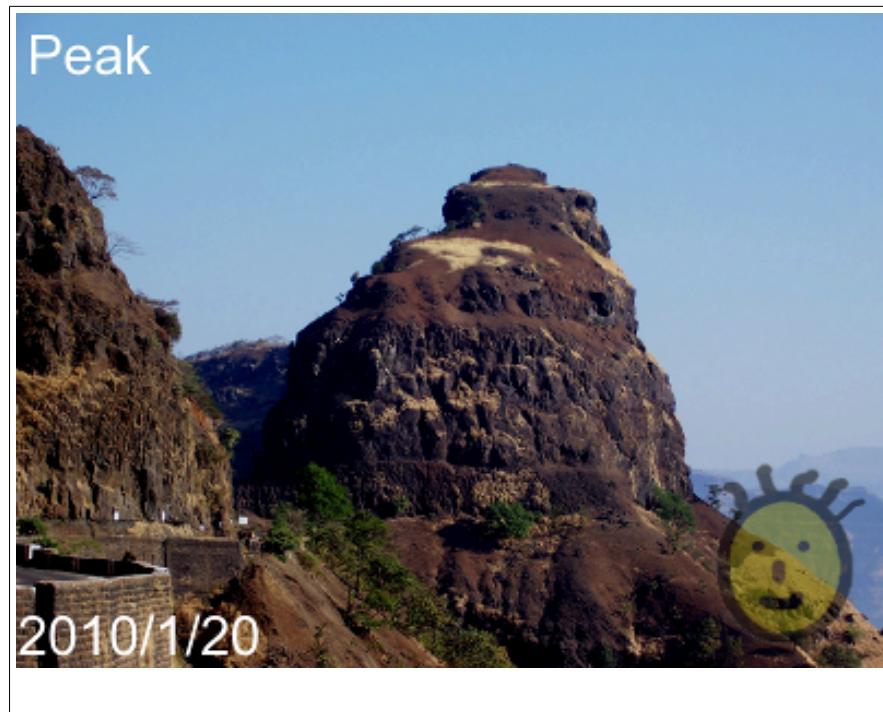


Illustration 12: Final processed image with text, date stamp and a watermark

# Applying Image Filters

## Smoothing



Illustration 13: Picture before and after smoothing



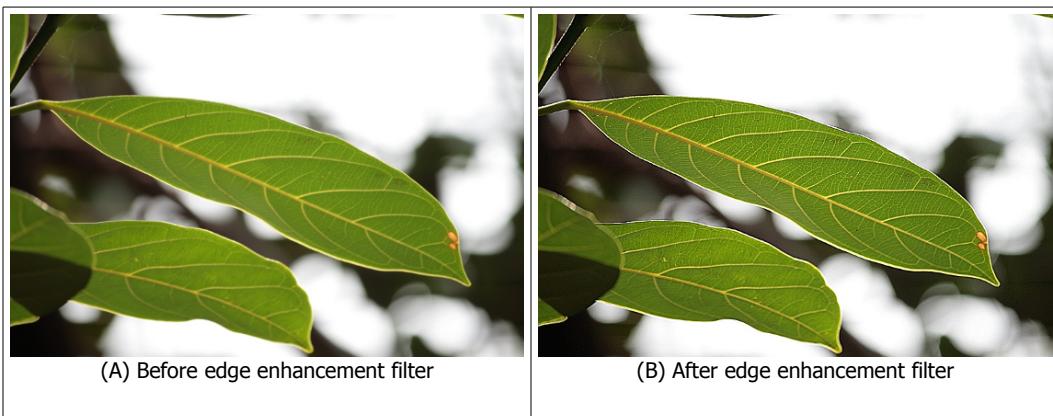
Illustration 14: Comparison of the resultant image with single (left) and multiple smoothing filters (right)

## Blurring



Illustration 15: Image before and after application of blurring filter

## Edge Detection and Enhancements





**Illustration 16:** a) First row: Images before and after application of edge enhancement filter b)  
Second row: The edges detected by `ImageFilter.FIND_EDGES` filter.

## Adding a Border



**Illustration 17:** Image before and after enclosing in a 'photo frame'