一 matlab图像处理工具箱

Image process toolbox. 含有一系列图像算法函数.

Imread

A = imread(filename,fmt)

Fmt可以是bmp,jpg,jpeg,tif等.

Imwrite

Imwrite(A,filename,fmt)

索引图转成灰度图

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| --- |
| load trees  i5=ind2gray(X,map)  imshow(X,map) |

|  |
| --- |
| function I = ind2gray(varargin)  **##　索引图（map）转成灰度图.**   1. **索引图是为了解决老式显示器不能显示24位真彩色的问题.** 2. **伴随图像有一个map文件, 颜色由它定义.** 3. **根据索引值(map)找到最终颜色** 4. **索引图像是一种把像素值直接作为RGB调色板下标的图像(?)**   %IND2GRAY Convert indexed image to intensity image.  % I = IND2GRAY(X,MAP) converts the image X with colormap MAP  % to an intensity(**强度**) image I. IND2GRAY removes the hue and  % saturation information while retaining the luminance.  **%% 只保留lum信息, 丢失掉hue(色度)和saturation(饱和度)**   1. **色度**   **是物体反射光中占优势的波长决定,是由不同波长产生的不同感觉,是决定颜色本质的基本特征.**   1. **饱和度** 2. **是颜色鲜明程度, 深绿,深红等.** 3. **白色光越少,饱和度越大.** 4. **白色光越多,饱和度越小.**   %  % Class Support  % -------------  % X can be uint8, uint16, double, or single. **MAP is double**.  % I has the same class as X.  %  % Example  % -------  % load trees  % I = ind2gray(X,map);  % figure, imshow(X,map), figure, imshow(I);  %  % See also GRAY2IND, IMTOOL, IMSHOW, RGB2NTSC, RGB2GRAY, MAT2GRAY.    % Copyright 1992-2013 The MathWorks, Inc.      [a,cm] = parse\_inputs(varargin{:});    %initialize output matrix  I = a;    % calculate gray colormap  graycm = rgb2gray(cm); **%% rgb转成灰度colormap.**  graycm = graycm(:,1);  **%% 由rgb2gary后,graycm是128x3的,但是这3列每行都是同一个数值.**    % do transformation  if isa(a,'double') || isa(a,'single')  % Make sure A is in the range from 1 to size(cm,1)  a = max(1,min(a,length(graycm))); **%把原图a,大小限定在128以内.a是258x350的.因为colormap总共有128个.你的图像的值,不能超过128的索引.**  **%%从中索引出图像.**   1. **A的元素就是colormap的索引.** 2. **Colormap存的是灰度值.**   **I(:) = graycm(a);**  else  %convert graycm to appropriate class  graycm = images.internal.changeClass(class(a),graycm);    % get vector size for class  if isa(a,'uint8')  vs = 256;  else  vs = 65536;  end    % lut is equal to the cropped graycm (if longer than the vs for class)  % or the padded graycm (if smaller than the vs for class).  len = length(graycm);  lut = graycm(1:min(len,vs));  lut(len:vs) = graycm(end);    I(:) = intlut(a,lut);  end |

