TP2 Traitement d’image

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1) #include <opencv2/core/core.hpp>

#include "opencv2/highgui/highgui.hpp"

#include "opencv2/imgproc/imgproc.hpp"

#include <iostream>

#include <stdio.h>

using namespace cv;

int main()

{

Mat image,image2;

image = imread("image.jpg");// read the file

cvtColor(image, image, CV\_BGR2GRAY);

equalizeHist (image, image2);

namedWindow("Niveau\_gris", CV\_WINDOW\_AUTOSIZE );

imshow("Niveau\_gris", image );

namedWindow("Histo", CV\_WINDOW\_AUTOSIZE );

imshow("Histo", image2 );

waitKey(0);

return 0;

}

2)

#include <opencv2/core/core.hpp>

#include "opencv2/highgui/highgui.hpp"

#include "opencv2/imgproc/imgproc.hpp"

#include <iostream>

#include <stdio.h>

using namespace cv;

int main()

{

Mat image;

Mat b\_hist, g\_hist, r\_hist;// new blank image

int histSize = 256;

float range[] = { 0, 256 } ;

const float\* histRange = { range };

int hist\_w = 512; int hist\_h = 400;

image = imread("image.jpg");// read the file

vector<Mat>bgr\_planes;

split (image, bgr\_planes);

calcHist(&bgr\_planes[0], 1, 0, Mat(), b\_hist, 1, &histSize, &histRange, true, false);

calcHist(&bgr\_planes[1], 1, 0, Mat(), g\_hist, 1, &histSize, &histRange, true, false);

calcHist(&bgr\_planes[2], 1, 0, Mat(), r\_hist, 1, &histSize, &histRange, true, false);

Mat histImage (512, 400, CV\_8UC3, Scalar (255,255,255));

normalize (b\_hist, b\_hist, 0, histImage.rows, NORM\_MINMAX, -1, Mat() );

normalize (g\_hist, b\_hist, 0, histImage.rows, NORM\_MINMAX, -1, Mat() );

normalize (r\_hist, b\_hist, 0, histImage.rows, NORM\_MINMAX, -1, Mat() );

int bin\_w = cvRound( (double) 512/histSize );

for(int i = 1; i <histSize; i++ )

{

line(histImage, Point( bin\_w\*(i-1), hist\_h - cvRound(b\_hist.at<float>(i-1)) ) ,

Point(bin\_w\*(i), hist\_h - cvRound(b\_hist.at<float>(i)) ),

Scalar( 255, 0, 0), 2, 8, 0 );

line(histImage, Point( bin\_w\*(i-1), hist\_h - cvRound(g\_hist.at<float>(i-1)) ) ,

Point(bin\_w\*(i), hist\_h - cvRound(g\_hist.at<float>(i)) ),

Scalar( 0, 255, 0), 2, 8, 0 );

line(histImage, Point( bin\_w\*(i-1), hist\_h - cvRound(r\_hist.at<float>(i-1)) ) ,

Point(bin\_w\*(i), hist\_h - cvRound(r\_hist.at<float>(i)) ),

Scalar( 0, 0, 255), 2, 8, 0 );

}

namedWindow("calcHist Demo", CV\_WINDOW\_AUTOSIZE );

imshow("calcHist Demo", histImage );

waitKey(0);

return 0;

}