1. 用MATLAB调用摄像头读取当前画面；

vid = videoinput('winvideo',1);

preview(vid);

1. 实现实时拍照功能——单次拍照功能；

% 建立videoinput对象

obj = videoinput('winvideo');

% 设置属性

set(obj, 'FramesPerTrigger', 1);

set(obj, 'TriggerRepeat', Inf);

% 建立界面

hf = figure('Units', 'Normalized', 'Menubar', 'None', ...

'NumberTitle', 'off', 'Name', '拍照');

ha = axes('Parent', hf, 'Units', 'Normalized', ...

'Position', [.05 .2 .85 .7]);

axis off %关闭坐标轴

hb1 = uicontrol('Parent', hf, 'Units', 'Normalized', ...

'Position', [.25 .05 .2 .1], 'String', '预览', ...

'Callback', ...

['objRes = get(obj, ''VideoResolution'');' ...

'nBands = get(obj, ''NumberOfBands'');' ...

'hImage = image(zeros(objRes(2), objRes(1), nBands));' ...

'preview(obj, hImage);']);

hb2 = uicontrol('Parent', hf, 'Units', 'Normalized', ...

'Position', [.55 .05 .2 .1], 'String', '拍照', ...

'Callback', 'imwrite(getsnapshot(obj), ''im.jpg'')');

1. 实现连续抓拍功能——连续间隔与拍照次数GUI设定；

t=get(handles.slider1,'value');

for k=1:t

h(k)=figure(k);

vid = videoinput('winvideo',1);

frame = getsnapshot(vid);

imshow(frame);

sdh=sprintf('fig%d.jpg',k);

saveas(h(k),sdh);

end

1. 实现录制视频功能——总帧数与帧率自己设定；

clear all; clc

vid = videoinput('winvideo', 1, 'YUY2\_640x480');%创建ID为1的摄像头的视频对象，视频格式是 YUY2\_640x480，这表示视频的分辨率为640x480。

set(vid,'ReturnedColorSpace','rgb');

vidRes=get(vid,'VideoResolution');

width=vidRes(1);

height=vidRes(2);

nBands=get(vid,'NumberOfBands');

figure('Name', 'Matlab调用摄像头 By sdh', 'NumberTitle', 'Off', 'ToolBar', 'None', 'MenuBar', 'None');

hImage=image(zeros(vidRes(2),vidRes(1),nBands));

preview(vid,hImage); %打开视频预览窗口

filename = 'film'; %保存视频的名字

nframe = 120; %视频的帧数

nrate = 30; %每秒的帧数

preview(vid);

set(1,'visible','off');

writerObj = VideoWriter( [filename '.avi'] );

writerObj.FrameRate = nrate;

open(writerObj);

figure;

for ii = 1: nframe

frame = getsnapshot(vid);

imshow(frame);

f.cdata = frame;

f.colormap = colormap([]) ;

writeVideo(writerObj,f);

end

close(writerObj);

closepreview

1. 文件自动命名并保存——对文件保存且程序会对文件自动命名。

imwrite('path','fig',num2str(变量名),'jpg')