Правообладатель**:** Федеральное государственное автономное образовательное

учреждение высшего образования

**«Сибирский федеральный университет» (СФУ)**

Программа для ЭВМ:

**«{{theme}}»**

Листов 12

(2-12 исходный текст, … стр интерфейс)

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Алгоритм пример

import cv2

import numpy as np

import time

import io

import snap7

from snap7.snap7types import \*

from snap7.util import \*

from matplotlib import pyplot as plt

#cv2.imshow('filt', filt)

#cv2.imshow('filter1', thresh1)

#cv2.imshow('filter2', thresh2)

#----------------------------------------

cv2.approxPolyDP(cnt,0.01\*cv2.arcLength(cnt,True),True)

# print len(cnt)

#cv2.drawContours(th4,[cnt],0,(0,255,255),-1)

#cv2.imshow('rec',th4)

#=============================================================|

#blur\_for\_circles = cv2.medianBlur(i, 3)

#cv2.imshow('blur', blur\_for\_circles)

#cv2.imshow('i', i)

#i = cv2.medianBlur(i, 3) #########

#template = cv2.cvtColor(template, cv2.COLOR\_BGR2GRAY)

thresh3\_roi = thresh3[0:85 , 0:640]

res = cv2.matchTemplate(thresh3\_roi,template,3) #mapmatches

min\_val, max\_val, min\_loc, max\_loc = cv2.minMaxLoc(res) #init params of algoritm

top\_left = max\_loc #top left edge is resalt of search algoritm point

bottom\_right = (top\_left[0] + w, top\_left[1] + h)

xf = (top\_left[0] + bottom\_right[0])/2

yf = (top\_left[1] + bottom\_right[1])/2

#circles = cv2.HoughCircles(i, cv2.HOUGH\_GRADIENT, 1, 30, np.array([]), 10, 30, 1, 25)

roi\_for\_circle\_search = i[(yf - 30):(yf + 30), (xf - 30):(xf + 30)]

w2, h2 = roi\_for\_circle\_search.shape[::-1]

#-------------------------------------------------------------------------------------------------------------------- ROI

#Draw Rectangle-Selection

cv2.putText(work\_frame, "ROI", (560,189), cv2.FONT\_HERSHEY\_SIMPLEX, 0.5, (255,255,255), 1)

cv2.putText(work\_frame, "MATCH", (560,210), cv2.FONT\_HERSHEY\_SIMPLEX, 0.5, (255,255,255), 1)

cv2.putText(work\_frame, str(round(max\_val, 5)), (570,25), cv2.FONT\_HERSHEY\_SIMPLEX, 0.5, (255,255,0), 1)

key = cv2.waitKey(1) #wait keypush