**Computer vision – HW1**

# 程式碼

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| **import** cv2  cap **=** cv2**.**VideoCapture**(**0**)**  fourcc **=** cv2**.**VideoWriter\_fourcc**(**'X'**,** 'V'**,** 'I'**,** 'D'**)**  # cv2.VideoWriter\_fourcc(‘X’, ‘V’, ‘I’, ‘D’), MPEG-4 encoding，.avi (video format)  # cv2.VideoWriter\_fourcc(‘I’, ‘4’, ‘2’, ‘0’), YUV encoding， .avi (video format)  # cv2.VideoWriter\_fourcc(‘P’, ‘I’, ‘M’, ‘I’), MPEG-1 encoding，.avi (video format)  # cv2.VideoWriter\_fourcc(‘T’, ‘H’, ‘E’, ‘O’), Ogg Vorbis encoding, .ogv (video format)  # cv2.VideoWriter\_fourcc(‘F’, ‘L’, ‘V’, ‘1’), Flash encoding，.flv (video format)  out **=** cv2**.**VideoWriter**(**'output.avi'**,** fourcc**,** 20.0**,** **(**640**,** 480**))**  # output.avi: output video's file name and format.  # fourcc: video format.  # 20.0: 20 frames per second.  # Resolution is 640x480  **print(**cap**.**isOpened**())**  **while** cap**.**isOpened**():**  # https://www.codegrepper.com/code-examples/python/cv2+cap.isOpened  ret**,** frame **=** cap**.**read**()**  # returned value of ret is either True (successful) or False (failed). frame: captured image frames  width**,**height**=**cap**.**get**(**cv2**.**CAP\_PROP\_FRAME\_WIDTH**),**cap**.**get**(**cv2**.**CAP\_PROP\_FRAME\_HEIGHT**)**  # print(f"width,height={width},{height}")  **if** ret**:**    out**.**write**(**frame**)**  # captured video is saved as output.avi  gray **=** cv2**.**cvtColor**(**frame**,** cv2**.**COLOR\_BGR2GRAY**)**  # convert color video to gray level  cv2**.**imshow**(**'frame'**,** gray**)**  # display captured video in gray level  key **=** cv2**.**waitKey**(**1**)**  **if** key **==** **ord(**'q'**)** **or** key **==** 27**:**  **break**  **else:**  **break**  cap**.**release**()**  out**.**release**()**  cv2**.**destroyAllWindows**()** |

# 成果圖

