2021.09.14 신민우

Planar Rectification

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| 1번 : 코드 |
| import cv2  import numpy as np  import glob  import pickle  # prepare object points, like (0,0,0), (1,0,0), (2,0,0) ....,(6,5,0)  objp = np.zeros((6\*9,3), np.float32)  objp[:,:2] = np.mgrid[0:9, 0:6].T.reshape(-1,2)  # Arrays to store object points and image points from all the images.  objpoints = [] # 3d points in real world space  imgpoints = [] # 2d points in image plane.  # Make a list of calibration images  # 사용자가 제시한 조건에 맞는 파일명을 리스트 형식으로 반환  images = glob.glob('kakaotalk/\*.jpg')  # Step through the list and search for chessboard corners  total\_images = len(images)  for idx, fname in enumerate(images):  img = cv2.imread(fname)  gray = cv2.cvtColor(img, cv2.COLOR\_BGR2GRAY)  # Find the chessboard corners  ret, corners = cv2.findChessboardCorners(gray, (9,6), None)  # If found, add object points, image points  if ret == True:  objpoints.append(objp)  imgpoints.append(corners)  # Draw and display the corners  cv2.drawChessboardCorners(img, (9,6), corners, ret)  write\_name = 'cal/corners\_found'+str(idx)+'.jpg'  cv2.imwrite(write\_name, img)  out\_str = f'{idx}/{total\_images}'  cv2.putText(img, out\_str, (10, 25),  cv2.FONT\_HERSHEY\_SIMPLEX, 0.4, (0,255,255), 1)  cv2.imshow('img', img)  cv2.waitKey(500)  cv2.destroyAllWindows()  img = cv2.imread('kakaotalk/KakaoTalk\_20210929\_140328435\_10.jpg')  height, width = img.shape[:2]  img\_size = (width, height)  # Do camera calibration given object points and image points  ret, mtx, dist, rvecs, tvecs = cv2.calibrateCamera(objpoints, imgpoints,  img\_size, None,None)  dst = cv2.undistort(img, mtx, dist, None, mtx)  cv2.imwrite('kakaotalk/test\_undist.jpg',dst)  # Save the camera calibration result for later use (we won't worry about rvecs / tvecs)  dist\_pickle = {}  dist\_pickle["mtx"] = mtx  dist\_pickle["dist"] = dist  pickle.dump( dist\_pickle, open( "kakaotalk/final.p", "wb" ) )  print('mtx', mtx)  print('dist', dist)  img\_result = cv2.hconcat([img,dst])  img\_result = cv2.pyrDown(img\_result)  cv2.imshow('dst',img\_result)  cv2.waitKey(0)  cv2.destroyAllWindows() |

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| 3번 체크보드 패턴영상에서 에지 부분 디스플레이하기(10장) |
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| 4번 : 캘리브레이션 파라미터 |
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| 5번 캘리브레이션 원본영상 – 결과영상 |
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