Results:

Looking through Image Database for Matches....

found file.... comparing

found file.... comparing

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SPY FOUND AT POSITION: 13 WITH SSR 0

Displaying Spy Image



Code:

from PIL import Image

import numpy as np

from os import listdir, path

IMAGES\_PREPATH = path.dirname(path.realpath(\_\_file\_\_)) + "\\images\\"

SPY\_PATH = path.dirname(path.realpath(\_\_file\_\_)) + "\\"

# Helper function to compute and return the SSR

def SSR(ar1, ar2):

    return(np.sum((ar1-ar2)\*\*2))

def find\_spy(spy):

    spec = []

    listing = listdir(IMAGES\_PREPATH)

    finalar = []

    k = 0

    spy\_file\_name, spy\_file\_extension = path.splitext(spy)

    print('Looking through Image Database for Matches....')

    spyar = Image.open(spy)

    spyar = np.array(spyar)

    for file in listing:

        if file.endswith(spy\_file\_extension):

            print('found file.... comparing')

            im = Image.open(IMAGES\_PREPATH + file)

            im = np.array(im)

            spec.append(im)

    for i in spec:

        k += 1

        finalar.append(SSR(spyar, i))

    print('\nSPY FOUND AT POSITION:', finalar.index(min(finalar)), 'WITH SSR', min(finalar))

    print('Displaying Spy Image')

    spy = finalar.index(min(finalar))

    spypic = Image.fromarray(spec[spy])

    spypic.show()

spy = SPY\_PATH + 'DC.png'

find\_spy(spy)