**Vision Based Automation**

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**LAB 3: Demonstration of 2D Fourier transform of an image and interpretation.**

# -\*- coding: utf-8 -\*-

"""

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"""

import cv2

import numpy as np

img = cv2.imread('all.jpg',0)

#DFT...

f = cv2.dft(np.float32(img), flags=cv2.DFT\_COMPLEX\_OUTPUT)

f\_shift = np.fft.fftshift(f)

f\_complex = f\_shift[:,:,0] + 1j\*f\_shift[:,:,1]

f\_abs = np.abs(f\_complex) + 1 #lie between 1 and 1e6

#log transform

f\_bounded = 20\*np.log(f\_abs)

f\_img = 255\*f\_bounded/np.max(f\_bounded)

f\_img = f\_img.astype(np.uint8)

cv2.imshow('DFT',f\_img)

cv2.waitKey(0)

cv2.destroyAllWindows()

