Perform in colab

import numpy as np

import matplotlib.pyplot as plt

from skimage.feature import canny

from skimage import data,morphology

from skimage.color import rgb2gray

import scipy.ndimage as nd

plt.rcParams["figure.figsize"] = (12,8)

rocket = data.rocket()

rocket\_wh = rgb2gray(rocket)

edges = canny(rocket\_wh)

plt.imshow(edges, interpolation='gaussian')

plt.title('Canny detector')

fill\_im = nd.binary\_fill\_holes(edges)

plt.imshow(fill\_im)

plt.title('Region Filling')

from scipy import ndimage, misc

elevation\_map = ndimage.sobel(rocket\_wh)

plt.imshow(elevation\_map)

markers = np.zeros\_like(rocket\_wh)

markers[rocket\_wh < 0.1171875] = 1 # 30/255

markers[rocket\_wh > 0.5859375] = 2 # 150/255

plt.imshow(markers)

plt.title('markers')

segmentation = morphology.watershed(elevation\_map, markers)

plt.imshow(segmentation)

plt.title('Watershed segmentation')

segmentation = nd.binary\_fill\_holes(segmentation - 1)

label\_rock, \_ = nd.label(segmentation)

# overlay image with different labels

image\_label\_overlay = color.label2rgb(label\_rock, image=rocket\_wh)