預測的指令:

- predict_mn.py
    a. conf_thres=0.7, # confidence threshold⇔DETECTION_MIN_CONFIDENCE = 0.7
    b. iou_thres=0.3, # NMS IOU threshold⇔DETECTION_NMS_THRESHOLD = 0.3
- python segment/val.py --weights runs/train-seg/ori2/weights/best.pt --data data/CTS.yaml --name Ndata_ori --img 512(train有resize512)
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預測的問題:

- savemat("{}/{}.mat".format(save_path, p.name),{'image' : im, 'mask' : bb0['masks'], 'class':bb0['label'], 'score':bb0['conf']})
  IndexError: only integers, slices (`:`), ellipsis (`...`), numpy.newaxis (`None`) and integer or boolean arrays are valid indices
    a. bb0只有predict的影像(144,528,3)
- FileNotFoundError: [Errno 2] No such file or directory: 'runs/predict-seg/N_ori7/0.bmp/0.bmp.mat'
    a. m_path = save_dir / f'{p.stem}'
        ■ stem是0,1,2,3,4,5…
        ■ name[c]是CTS or Normal
- im&mask是torch type
- 複數predict的mat檔不會疊在一起
    a. im = torch.size([1,3,160,512])
    b. masks = torch.size([2,160,512])
- mask 是 2層 ＝>binary
- 想要的**mat**檔的格式 **＆type**
    a. **class [x,x,x]int32**
    b. **image uint8**
    c. **mask logical**
    d. **score [0.xxxx,0.xxxx,0.xxxx]single**
- File "segment/predict_mn.py", line 173, in run
      mat_mask = scale_masks(im.shape[2:],masks,im0.shape)
    File "./utils/segment/general.py", line 96, in scale_masks
      masks = cv2.resize(masks, (img0_shape[1], img0_shape[0]))
  cv2.error: OpenCV(4.7.0) :-1: error: (-5:Bad argument) in function 'resize'
  > Overload resolution failed:
  > - src is not a numpy array, neither a scalar
  > - Expected Ptr<cv::UMat> for argument 'src'
    a. src:影像來源網址

scale_mask	im.shape[2:]	im_masks	im0.shape	

	torch.size([160,512]	(160,512,3)	(144,528,3)	
plot_masks	im[i]	masks	mcolors	
	torch.size([160,512]	torch.size([1,160,512])		

- b. permute:置換維度
- c. contiguous:與transpose,permute,view搭配使用:使用transpose或permute進行維度變換後, 調用contiguous, 然後方可使用view對維度進行變形,傳回一個記憶體連續的有相同資料的tensor, 如果原tensor記憶體連續, 則傳回原tensor
- d. masks=>plot_mask=>im_mask
- File "segment/predict_mn.py", line 56, in trans_mask
  c_mask = np.where(c_mask>0.5,c_mask,0)
  File "<__array_function__ internals>", line 6, in where
  File
  "/usr/local/roy/anaconda3/envs/yolo_/lib/python3.7/site-packages/torch/_tensor.py", line 956, in __array__
  return self.numpy()
  TypeError: can't convert cuda:0 device type tensor to numpy. Use Tensor.cpu() to copy the tensor to host memory first.
  - a. 執行的指令or變數+.cpu().numpy
  - b. https://www.cnblogs.com/booturbo/p/16341650.html
- uinque():挑出tensor中獨立不重複的元素
- 沒預測到的就沒有**mat**檔

程式更改了什麼:

- np.uint32(mle)
  - a. 原本是int()會存到int64
- mask是single沒關係, 程式內有用pre = (pre > 1)*1去掉浮點數的預測
- mat_mask
- rstrip: https://blog.csdn.net/qdPython/article/details/105751281
- ##here