Group project: max 4 students

**Object detection using MASK-RCNN with transfer learning.**

Follow the following link for help:

<https://towardsdatascience.com/object-detection-using-mask-r-cnn-on-a-custom-dataset-4f79ab692f6d>

**Problem:** You have two types of identity cards, and each card has many fields. You are required to extract “first name”, “last name” “card number”, “date of birth”, “address”, “country/state/province”

You can take any 4 types of cards: e.g, (i) Pakistan CNIC, (ii) UK National identity card, (iii) Pakistani Passport, (iv) UK passport etc.

**Dataset:** You can download these both type of cards from google images. For example you can download 25 for each.

**Annotations:** You can use any annotation software (**labellimg, labelme, labelbox, VIA** (VGG Image Annotator)) to annotate your images.

**Augmentation**: after annotations, you can use some augmentation techniques to create more images. For example you can rotate an image at every 4 degree and in this way you can have 90 images from one image. You can use other augmentation approaches too.

**Transfer learning:** You will train the model on your own dataset. Basically you will use transfer learning and for that download the coco pretrained weights and you have use ResNet50 (for details refer to the link above).

**Results Required:** You need to plot training and validation curves for 100 epochs. Moreover you need to report the testing accuracy.