Emerging Technology in Artificial Intelligence

Instance Segmentation Model

- Implement a supervised instance segmentation model that has the ability to detect and segment specific object/objects using YOLOv8 or Mask RCNN architecture.
- The following activities should be achieved by each group:
    a) You should choose any annotated detection dataset. You may find one from The Roboflow Universe.
    b) Use the SAM model to generate segmentation masks for each bounding box in the detection dataset.
    c) Perform necessary preprocessings and augmentations to the dataset then, split the dataset to training, validation, and test.
    d) Train your model with your choices of hyperparameters.
    e) Visualize the performance of the segmentation model using the appropriate metrics such as: Precision, Recall, Intersection over Union (IoU), and Mean average precision (mAP).
    f) You should infer your model with the test images.

- You should present your work and results in class on December 27th.