How to build an Object Segmentation App

* Having an object detection dataset already given, upload it on Roboflow.
* Go to the generate window and click on the button “Continue” until you see the button “Create”, click it and wait for the end of the version build.
* Use the following notebook to convert your object detection dataset into a new Roboflow project containing your segmentation dataset, in case you need a videoguide [click here](https://www.youtube.com/watch?v=oEQYStnF2l8) (starting from: 17:11).



* Now we can create the Dataset Version; go to the generate window, select “Train/Test split” and “rebalance”, here you can choose how many images should go into train, valid and test”, after that keep clicking on “Continue” until you can see the button “Create”, click on it and wait for the end of the version build.
* Having the Dataset Version, we can export it by going to the version window and click on “Export Dataset”, here select “YOLOv8” as format and select “download zip to computer”.
* Open [Ultralytics Hub](https://hub.ultralytics.com), go to the dataset window and click on “Upload Dataset”, here select segment, upload the .zip file and create the Dataset.
* Open the just uploaded Dataset and click on Train Model, select YOLOv8n and click on “Continue”, here select Google Colab, copy the script and follow the instruction in the notebook given by ultralytics.
* Go to the models window and select the model you just got from training, here click on deploy and select pytorch, once done you have your model ready.

Common Issues

* Sometimes while uploading the Object Detection Dataset in Roboflow, the classes (which affect the name seen during the detection and segmentation) may be loaded in the wrong way (pay attention to the label map, for reference use the file “notes”), to solve the problem you should manually find the right type of pump(still use file “notes” for reference) and change the classes to adapt them to the Dataset
* With the new update of roboflow and ultralytics there might be a case where your Dataset isn’t created automatically, in this case go to your new roboflow project and go to the annotation window, once there you should see a label named “auto-annotated-with-grounded-sam”, there click on assign images and then “Start Manual Labeling”, “Assign Images”, “Add Images to Dataset”, “Add Images”.
* During the use of Google Colab with a free plan, the available GPU is limited so you might need to create a new account each time your available GPU ends (each free account can use the GPU one time per day).