

# EvaluateSemanticSegmentation README

## Semantic Segmentation IOU evaluation script

Find the semantic segmentation IOU match between predicted and GT mask for vessel content (the evaluation done for each vessel content separately). The script can run as-is with the example folders supplied.

Vessel Matching will assume that the vessel indexes in the predicted and GT folders are different and will find the best between predicted and GT vessels instance before matching their content.

## Main Input Parameters

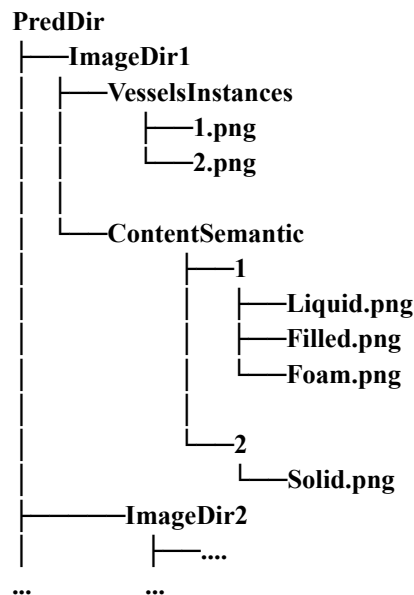
**GTDDir:** contains the path to the LabPics evaluation set that is used as Ground truth

**PredDir:** Contain the link to the predicted instances of the vessel Content (See Subfolder **ExampleData/Predict/** for example in this folder). Vessel contents are the materials and parts(optional) inside a vessel-specific vessel.

## Prediction folder strucutre:

See Subfolder **ExampleData/Predict/** for example prediction folder.

The structure of the predicted dir should be as follows:



**ImageDir:** Should have the same name as the image folder in LabPics evaluation set for every image folder in the GT dir there should be a similar folder in the predicted folder.

**ImageDir1\Vessels:** Mask of Vessels instances this folder is optional and just use to match vessel instances of predicted and ground truth annotation. The vessel masks in this folder will be matched to the vessel masks in the GT LabPics folder. If the predicted vessel masks indexes match those of the GT already this folder can be ignored

**ImageDir1\Vessels\1.png:** Binary mask for vessel instance 1. Note that this doesn't have to match vessel instance 1 in the ground truth folder. Folder 1 in the **ContentSemantic** folder will contain the predicted content of this vessel.

**ImageDir1\ContentSemantic:** Folder contains the predicted content of each vessel as an independent subfolder.

**ImageDir1\ContentSemantic\1:** Folder containing content of vessel 1 (vessel instance mask is given in ImageDir1\VesselsInstances\1.png.) If no **ImageDir1->Vessels** folder exists, vessel 1 match vessel instance 1 in the GT corresponding image folder (**GTDDir\ImageDir1\Vessels\1.png**)

**ImageDir1\ContentSemantic\1\Liquid.png:** Semantic map for liquid in vessel 1

**ImageDir1\ContentSemantic\1\Foam.png:** Semantic map for foam class in vessel 1

**ImageDir1\ContentSemantic\2\Solid.png:** Semantic map for solid class in vessel 2

## Additional parameters

**MatchVessel:** If true vessel indexes in the predicted and GT folders does not and will be matched by the script.

**ClassToUse:** classes that will be used for the evaluation.

**LimitToVessel:** only this vessel types if "" check all.

**MinMapAreaInPixels:** Minimum number of pixels in maps to use (smaller number will be ignored).