

An example image set from a single study needed as input to the random forest models is shown in Figure 1.

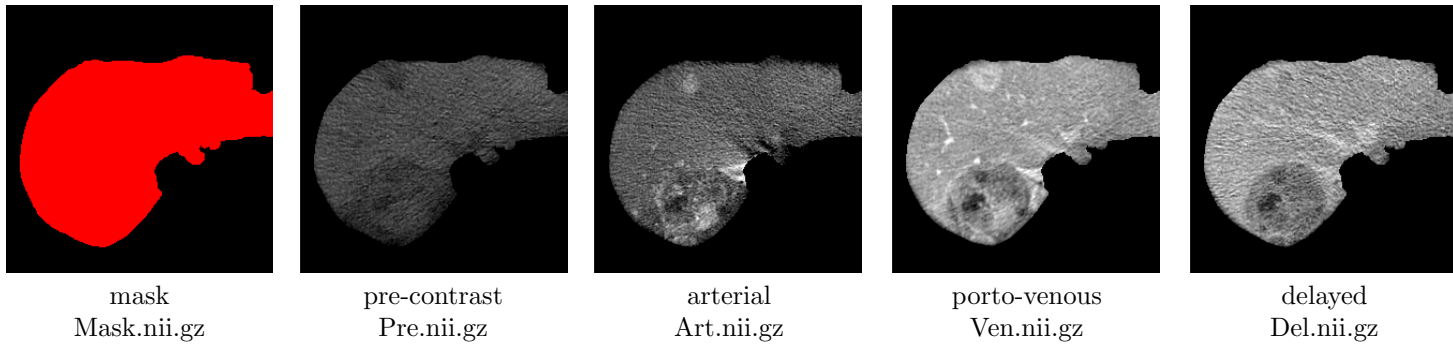


FIGURE 1. Original Images. Each study consists of volumetric images from the pre-contrast, arterial, porto-venous, delayed phase shown.

Each image set should be in a separate directory and should follow the below naming convention *exactly*:

```
$ ls ImageDatabase/Predict0001/before/
Art.nii.gz Del.nii.gz Mask.nii.gz Pre.nii.gz Ven.nii.gz
```

Example output from the random forest model is shown in Figure 2. Output images are organized with respect to the model used for the segmentation $\$(WORKDIR)/\%/\$(RFMODEL)/LABELS.GMM.nii.gz$

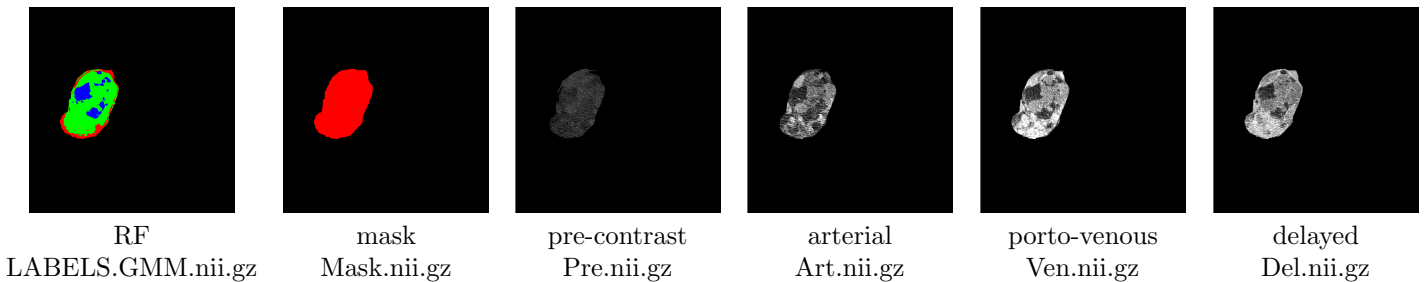


FIGURE 2. Model output.

Given the segmented images, c3d is used to extract volume information.

```
innovador$ make -f prediction.makefile volume
cd /workarea/fuentes/github/LiverSegmentationExample/workdir/Predict0001/before/FeatureModel100000130/KFold.000000000000
c3d LABELS.GMM.nii.gz LABELS.GMM.nii.gz -lstat > LABELS.GMM.VolStat.txt ;
sed "s/\s\+/,/g" LABELS.GMM.VolStat.txt > LABELS.GMM.VolStat.csv
innovador$ cat
/workarea/fuentes/github/LiverSegmentationExample/workdir/Predict0001/before/FeatureModel100000130/KFold.0000000000000000
LabelID,Mean,StdD,Max,Min,Count,Vol(mm^3),Extent(Vox)
,0,0.00000,0.00000,0.00000,0.00000,22587824,24901854.558,512,512,93
,1,1.00000,0.00000,1.00000,1.00000,1119734,1234446.187,270,299,71
,2,2.00000,0.00000,2.00000,2.00000,609718,672181.125,243,280,69
,3,3.00000,0.00000,3.00000,3.00000,62116,68479.531,144,176,40
```