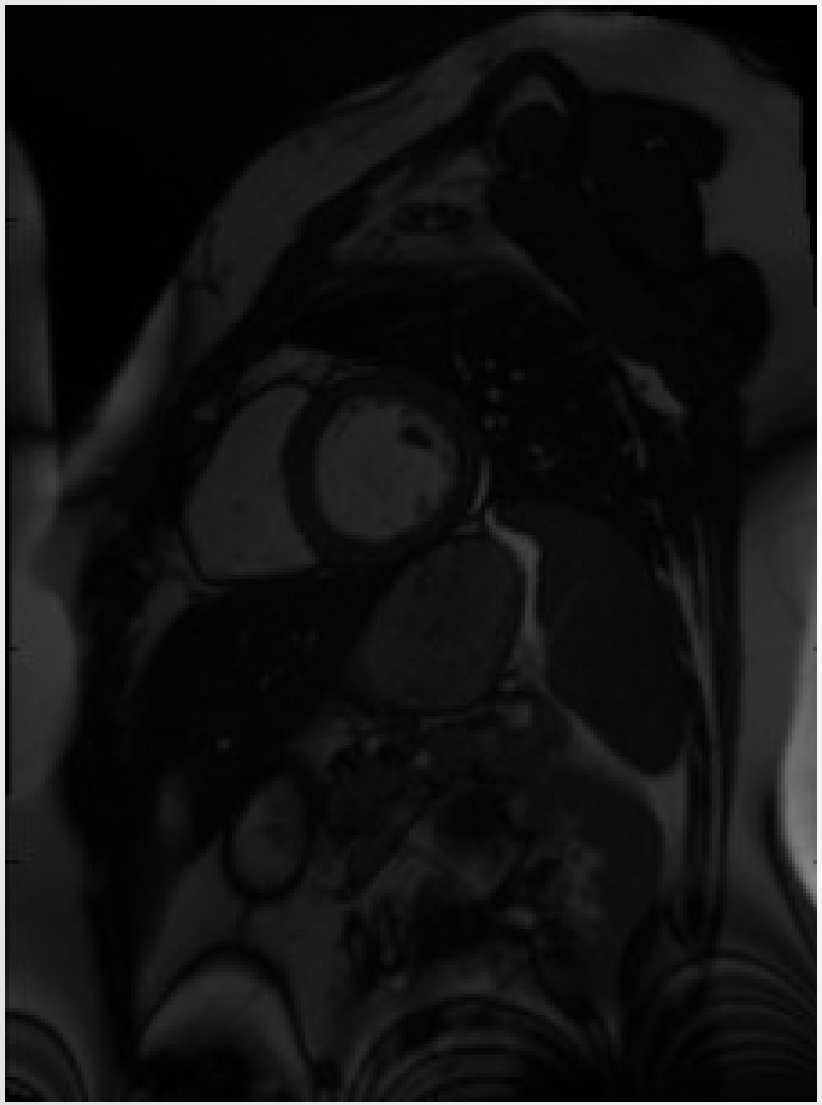
MRI Cardiac Segmentation for the Left Ventricle

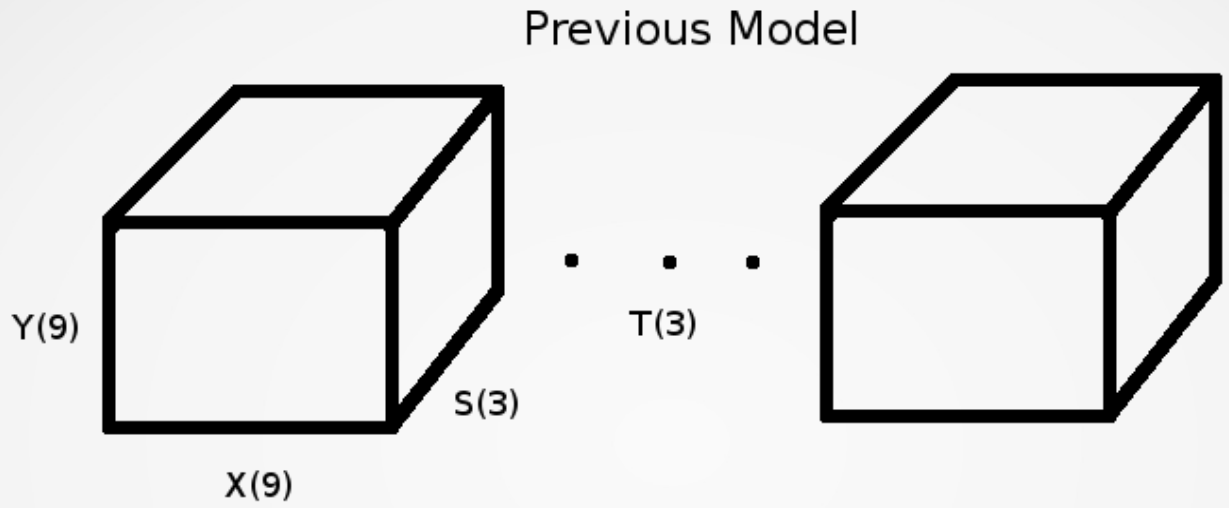


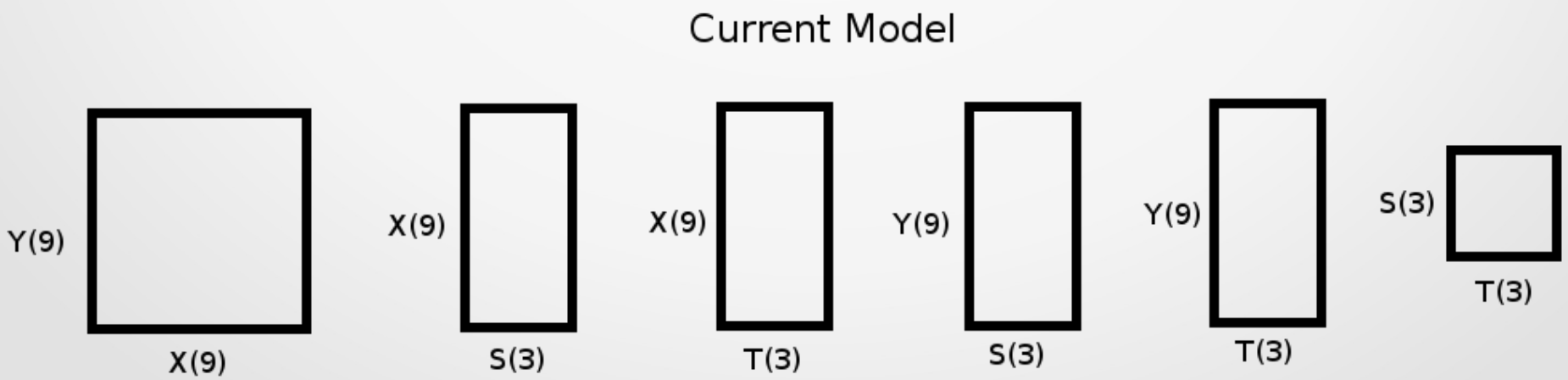
Jonathan Lacombe
REU in Computer Vision
University of Central Florida
Working with:
Ali Mortazi & Dr. Bagci
Week 5

Progress

- Trained Mondrian Forests on a sample of patches from a patient
- Changed patch extraction model
  - Extracting 6 different types of 2D patches
  - Training 6 Autoencoders
  - Training 6 Mondrian forests
- Visualized results of Mondrian Forest
  - Considered a small region of the slice and only considered every 5^{th} patch in the x and y direction
  - Output 1 if the 6 Mondrian Forests on average predicted over 0.5 and 0 if otherwise

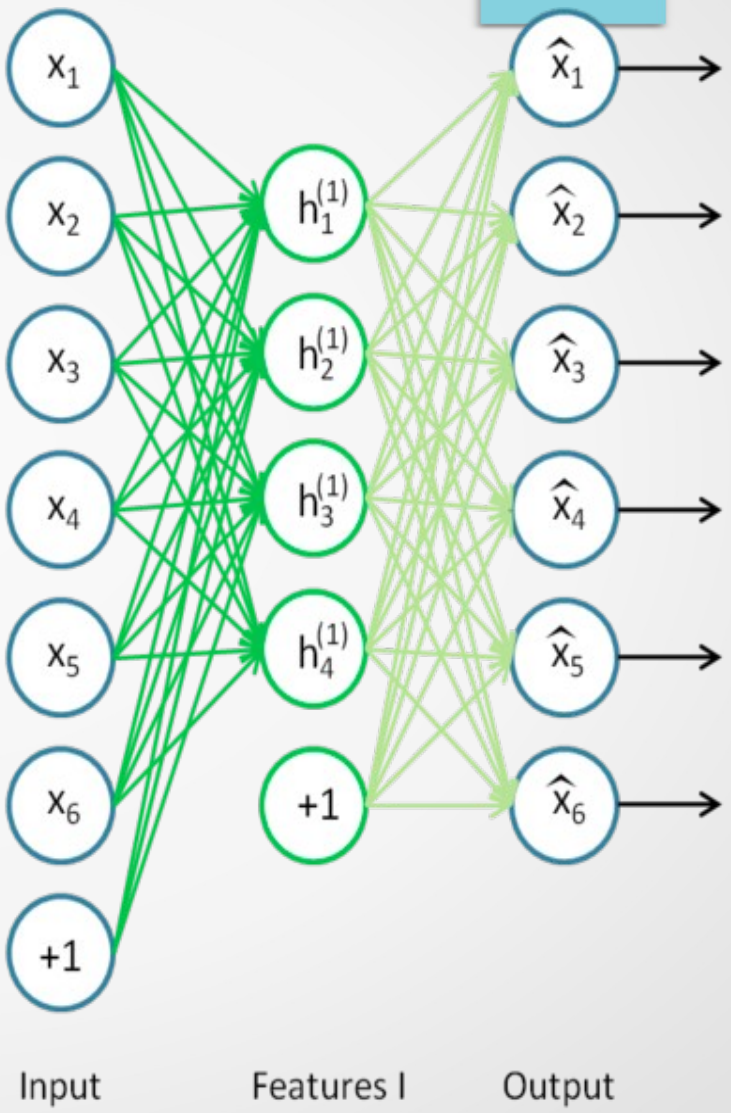
Patch extraction





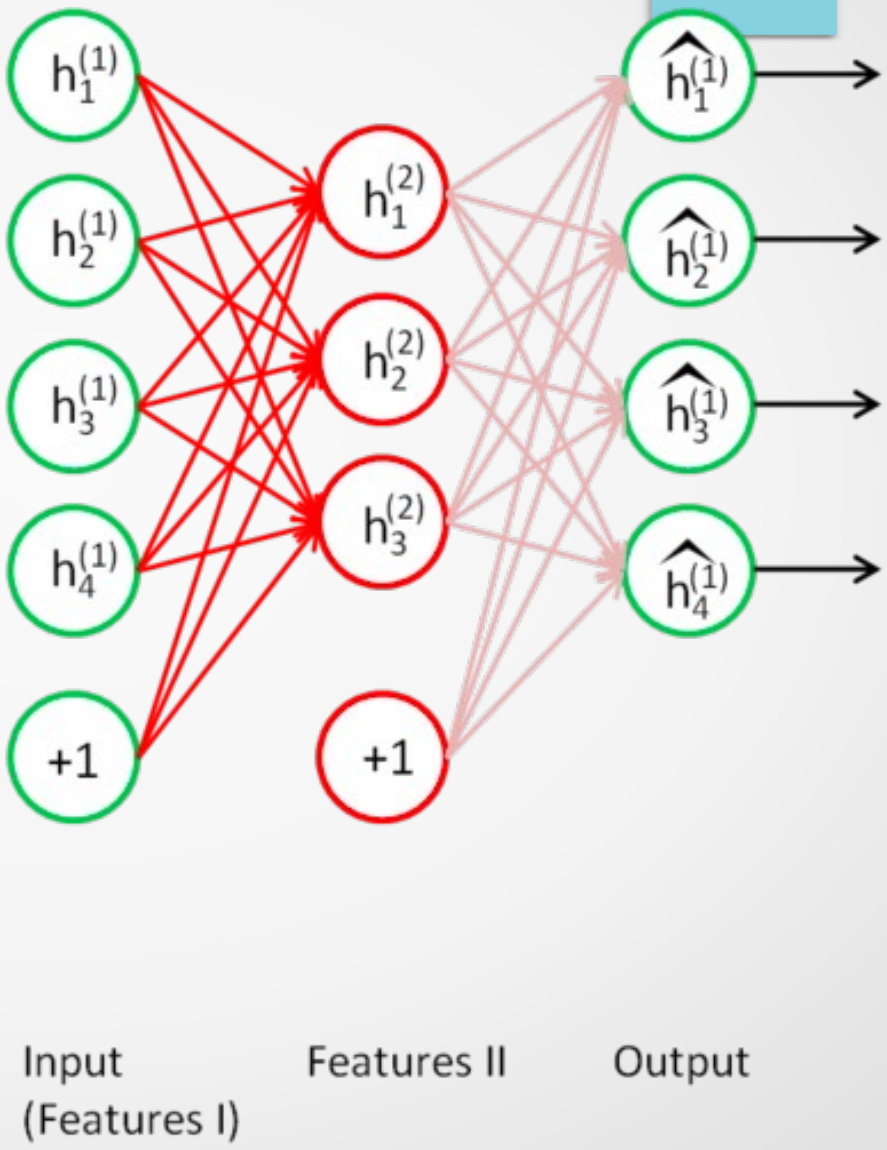
1st Autoencoder

- Patch [Input size, Hidden size]
- XY [81,40]
- XS [27,12]
- XT [27,12]
- YS [27,12]
- YT [27,12]
- ST [9,6]

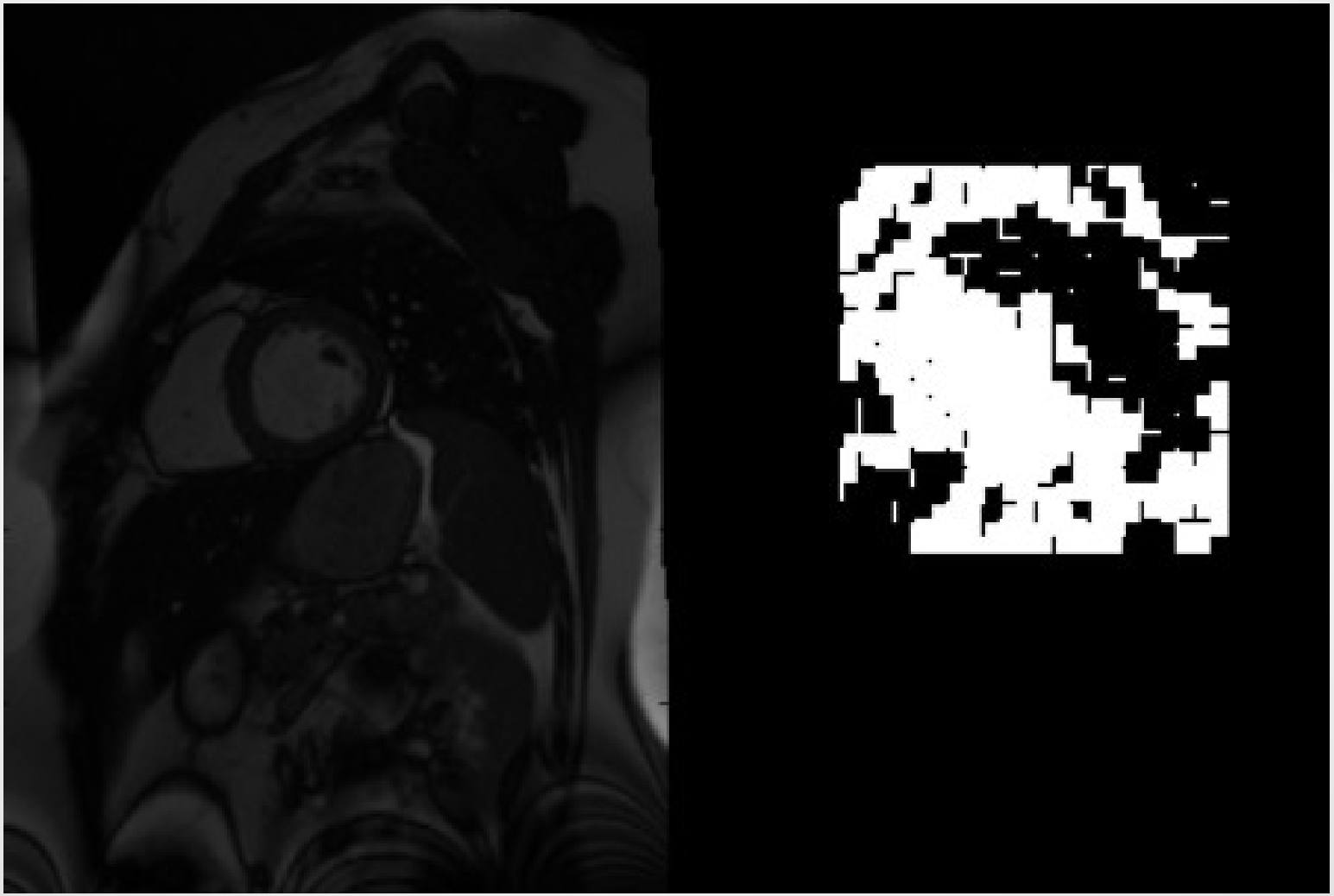


2st Autoencoder

- XY [40,20]
- XS [12,6]
- XT [12,6]
- YS [12,6]
- YT [12,6]
- ST [6,3]



Results



Plan for next week

- Research other possible features to include and minimize the error
- Visualize Mondrian Forest prediction of every pixel

References

- http://ufldl.stanford.edu/wiki/index.php/Stacked_Autoencoders