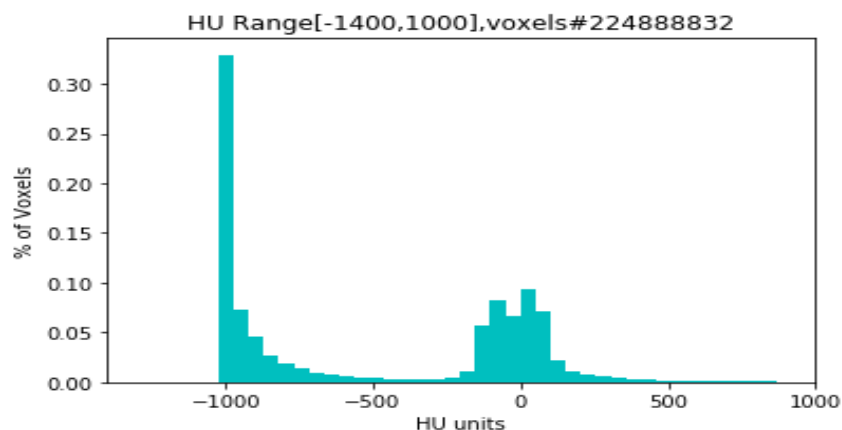# Channel Effect on Atelectasis Classification Duke Ranges

Model Description: Resnet50 -GlobalMaxPolling2D-Sigmoid (LAST layer Activation)

Cross-validation (CV): 4-Fold Cross Validation
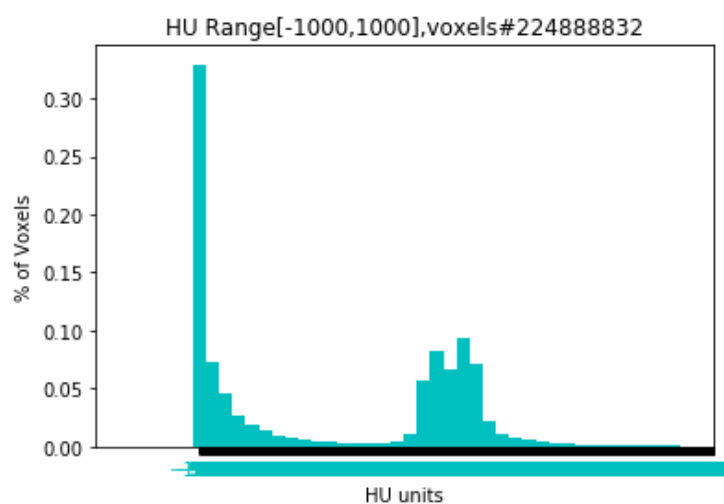
Data: 1300 Atelectasis and 950 Normal Slices

Over all Range of Hu units for all voxels

1. **Experiment #** Duke Complete Range **[-1000,1000]**, Duke Low Range **[-950, -250],** Duke High Range **[-250,250]**

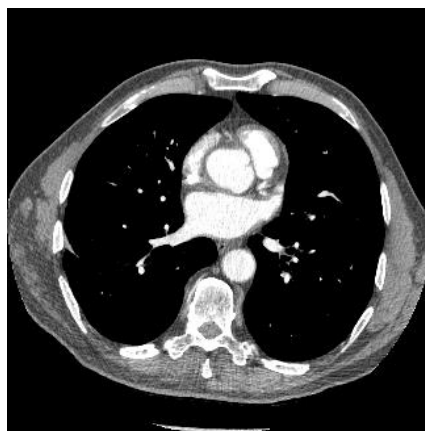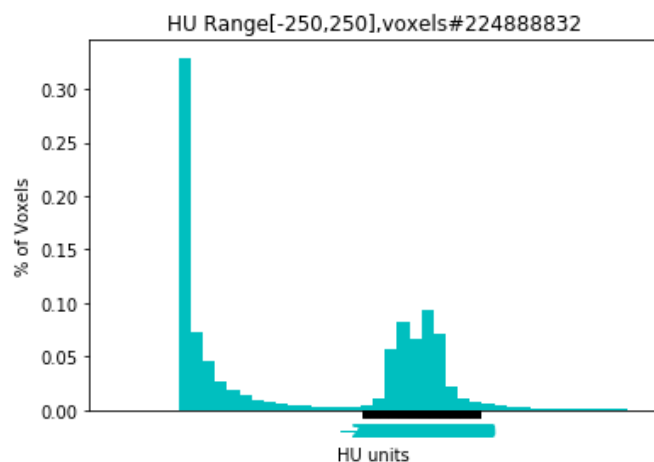| 4-Fold CV	AUC	Accuracy	RSME Score
Average	0.769641	0.637789	0.586105
SD	0.027432	0.021299	0.020073

2. **Experiment with Duke Full Range [-1000,1000]**, complete range

(black line represents the HU window range of this image)

Fold #	AUC	Accuracy	RSME Score
Fold 1	0.7327141382868937	0.6110124332866702	0.6106151021298873
Fold 2	0.7714685188526069	0.6092362350934776	0.6150813125410711
Fold 3	0.7131580655631289	0.606761565942357	0.6184467414558761
Fold 4	0.7032850052246603	0.6227758011359761	0.6104854283050338
Average	**0.730156**	**0.612447**	**0.613657**
SD	**0.030134**	**0.007103**	**0.003842**

3. **Experiment with** Duke High Range **[-250,250], approximate 35-45% voxels**

HU Range[-250,250],voxels#224888832

Fold #	AUC	Accuracy	RSME Score
Fold 1	0.6885835913312693	0.5879218471410219	0.6359016251744591
Fold 2	0.7035901136568645	0.6021314386152671	0.6280155336395302
Fold 3	0.5719376825705939	0.5907473310669121	0.639754462784302
Fold 4	0.5237656739811913	0.5907473305366218	0.6400092241326132
Average	**0.621969**	**0.592887**	**0.63592**
SD	**0.088028**	**0.006305**	**0.005595**

4. **Experiment with** Duke Low Range **[-950, -250], approximate 20% voxels**

HU Range[-950,-250],voxels#224888832

Fold #	AUC	Accuracy	RSME Score
Fold 1	0.5743421052631579	0.5754884553421454	0.6511028593375295
Fold 2	0.5825494188294116	0.5754884550774712	0.6511122051392784
Fold 3	0.5538396624472574	0.5800711744832823	0.6463508114070932
Fold 4	0.5321185997910136	0.5907473305366218	0.63945310208803980
Averaged	**0.560712**	**0.580449**	**0.647005**
SD	**0.022564**	**0.007198**	**0.005511**