Notes

NVDIA support poor

trainNetwork will not run on my graphics card. Reason:  
my GTX 1060 has compute capability 6.1 which is too high for matlab 2016b

<https://www.mathworks.com/support/bugreports/1439741>

Had to upgrade to matlab 2018a

Take the flattened band1 and band2 images

Convert them to 255 binary images

Store them into separate folders, if they are iceberg or not

Use the image datastore to pull in the images using the label is iceberg

What about the inc angle…..

Baseline 1:

numTrainingFiles = 600;

[imdsTrain,imdsTest] = splitEachLabel(imds,numTrainingFiles,'randomize');

layers = [

imageInputLayer([75 75 1])

convolution2dLayer(3,8,'Padding','same')

batchNormalizationLayer

reluLayer

maxPooling2dLayer(2,'Stride',2)

convolution2dLayer(3,16,'Padding','same')

batchNormalizationLayer

reluLayer

maxPooling2dLayer(2,'Stride',2)

convolution2dLayer(3,32,'Padding','same')

batchNormalizationLayer

reluLayer

fullyConnectedLayer(2)

softmaxLayer

classificationLayer];

options = trainingOptions('sgdm', ...

'MaxEpochs',170,...

'InitialLearnRate',1e-4, ...

'Verbose',0, ...

'Plots','training-progress');

net = trainNetwork(imdsTrain,layers,options);

YPred = classify(net,imdsTest);

YTest = imdsTest.Labels;

accuracy = sum(YPred == YTest)/numel(YTest)

epoch: 170

numTrainingFiles: 600

acc: .8564

epoch: 500

numTrainingFiles: 600

acc: .8243

epoch: 170

numTrainingFiles: 500

acc: .8046

epoch: 170

numTrainingFiles: 400

acc: .7985

epoch: 200

numTrainingFiles: 600

acc: .8045

epoch: 200

numTrainingFiles: 700

acc: .8676