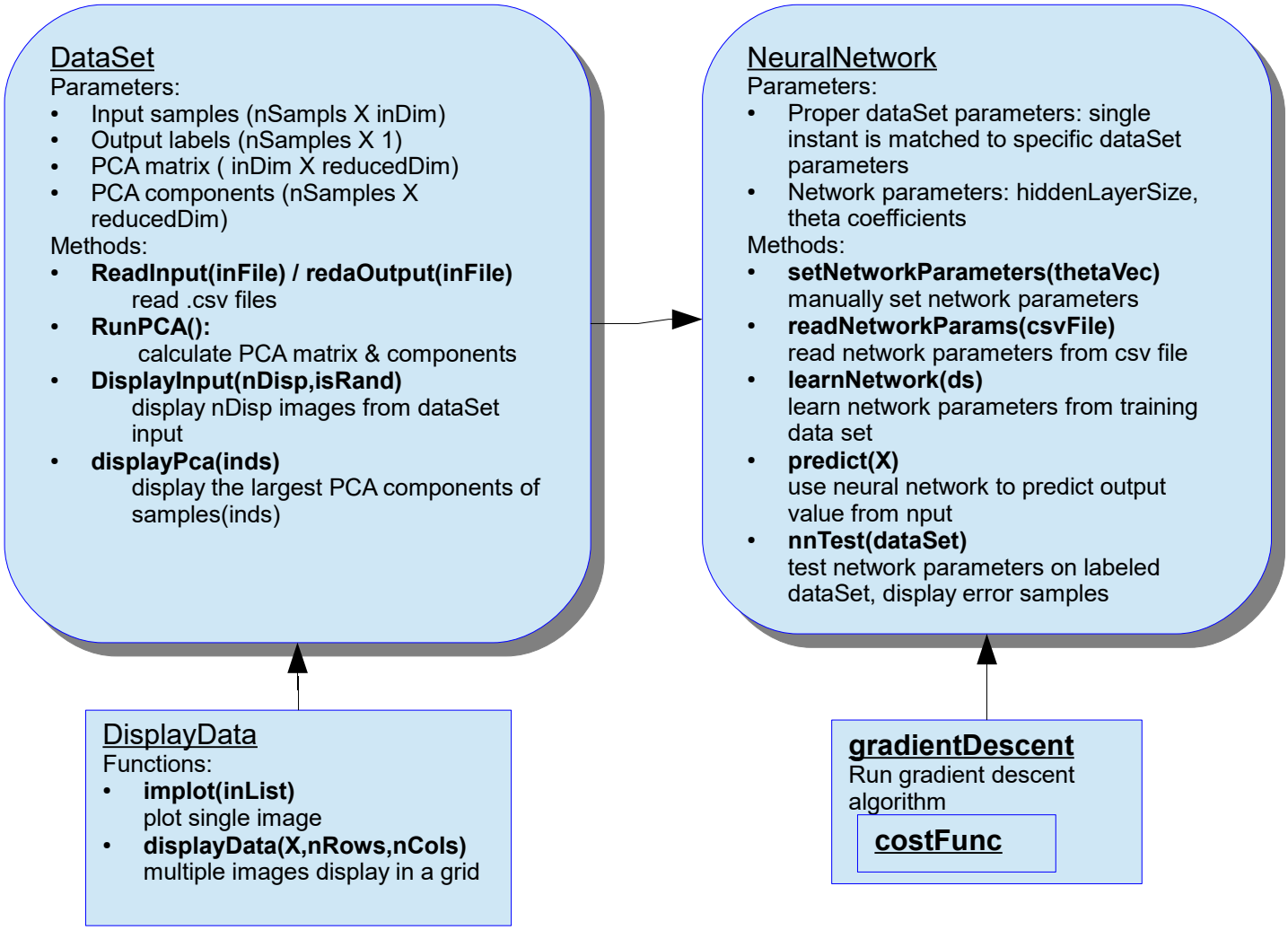
DataSet
Parameters:
• Input samples (nSampls X inDim)
• Output labels (nSamples X 1)
• PCA matrix (inDim X reducedDim)
• PCA components (nSamples X reducedDim)
Methods:
• ReadInput(inFile) / redaOutput(inFile)
read .csv files
• RunPCA():
calculate PCA matrix & components
• DisplayInput(nDisp,isRand)
display nDisp images from dataSet input
• displayPca(inds)
display the largest PCA components of samples(inds)
NeuralNetwork
Parameters:
• Proper dataSet parameters: single instant is matched to specific dataSet parameters
• Network parameters: hiddenLayerSize, theta coefficients
Methods:
• setNetworkParameters(thetaVec)
manually set network parameters
• readNetworkParams(csvFile)
read network parameters from csv file
• learnNetwork(ds)
learn network parameters from training data set
• predict(X)
use neural network to predict output value from nput
• nnTest(dataSet)
test network parameters on labeled dataSet, display error samples
DisplayData
Functions:
• implot(inList)
plot single image
• displayData(X,nRows,nCols)
multiple images display in a grid
gradientDescent
Run gradient descent algorithm
costFunc