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THIS WEEK'S FORUM

Week 3

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Programming Exercise Tutorials (list)

Tom Mosher Mentor General Discussion · 2 years ago · Edited

This post contains links to all of the programming exercise tutorials.

After clicking on a link, you may need to scroll down to find the highlighted post.

--- Note: Additional test cases can be found (here) ---

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ex1

computeCost() tutorial - also applies to computeCostMulti().

gradientDescent() - also applies to gradientDescentMulti() - includes test cases.

featureNormalize() tutorial

Note: if you use OS X and the contour plot doesn't display correctly, see the Course Wiki for additional tips.

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ex2

Note: If you are using MATLAB version R2015a or later, the fminunc() function has been changed in this version. The function works better, but does not give the expected result for Figure 5 in ex2.pdf, and it throws some warning messages (about a local minimum) when you run ex2_reg.m. This is normal, and you should still be able to submit your work to the grader.

Note: If your installation has trouble with the GradObj option, see this thread: <link>

Note: If you are using a linux-derived operating system, you may need to remove the attribute "MarkerFaceColor" from the plot() function call in plotData.m.

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sigmoid() tutorial

costFunction() cost tutorial - also good for costFunctionReg()

costFunction() gradient tutorial - also good for costFunctionReg()

predict() - tutorial for logistic regression prediction

Discussion of plotDecisionBoundary() <link>

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ex3

Note: a change to displayData.m for MacOS users: (link)

Note: if your images are upside-down, use flipud() to reverse the data. This is due to a change in gnuplot()'s defaults.

lrCostFunction() - This function is identical to your costFunctionReg() from ex2. Do not remove the line "grad = grad(:)" from the end of the lrCostFunction.m script template. This line guarantees that the grad value is returned as a column vector.

oneVsAll() tutorial

predictOneVsAll() tutorial (updated)

predict() tutorial (for the NN forward propagation - updated)

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ex4

nnCostFunction() - forward propagation and cost w/ regularization

nnCostFunction() - tutorial for backpropagation

Tutorial on using matrix multiplication to compute the cost value 'J'

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ex5

linearRegCostFunction() tutorial

polyFeatures() - tutorial

learningCurve() tutorial (really just a set of tips)

validationCurve() tips

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ex6

Note: Update to ex6.m: At line 69/70, change "sigma = 0.5" to "sigma = %0.5f"

and change the list of output variables from "sim" to "sigma, sim".

(note: As of Jan 2017, this issue is already included in the zip file)

Note: Error in visualizeBoundary.m. Change the call to contour() like this:

contour(X1, X2, vals, [1 1], 'b');

(This change removes the attribute 'Color', and changes the contour interval. Note that [0.5 0.5] also works and is more logical, since "vals" has range [0..1])

This issue can cause either the "hggroup" error message, or the decision boundaries to not be displayed, or possibly cause Octave 3.8.x to crash when running ex6.m.

All ex6 tutorials (link)

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ex7

findClosestCentroids() tutorial

computeCentroids() tutorial

Tutorials for ex7_pca functions - pca(), projectData(), recoverData()

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ex8

selectThreshold() - use the tips in the function script template, and the bulleted list on page 6 of ex8.pdf, to compute each of the tp, fp, and fn values.

Note: error in ex8_cofi.m (click this link)

Tip for estimateGaussian(): Compute the mean using "mean()". You can compute sigma2 using the equation in ex8.pdf, or you can use "var()" if you set the OPT parameter so it normalizes over the entire sample size.

cofiCostFunc() tutorial

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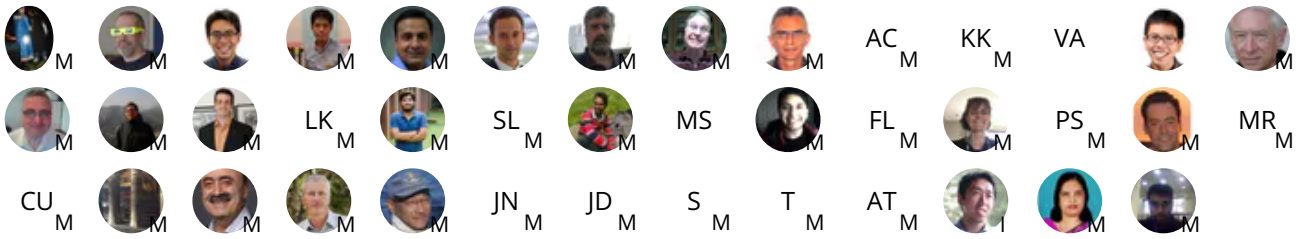

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