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Week 4

SUBFORUMS**All**

Assignment: Multi-class Classification and Neural Networks

← Week 4



Tutorial: ex3 oneVsAll()



Tom Mosher · Mentor · Assignment: Multi-class Classification and Neural Networks · 3 years ago · Edited

`all_theta` is a matrix, where there is a row for each of the trained thetas. In the exercise example, there are 10 rows, of 401 elements each. You know this because that's how `all_theta` was initialized in line 15 of the script template.

(note that the submit grader's test case doesn't have 401 elements or 10 rows - your function must work for any size data set - so use the "num_labels" variable).

Each call to `fmincg()` returns a theta vector. Be sure you use the lambda value provided in the function header.

You then need to copy that vector into a row of `all_theta`.

The `oneVsAll.m` script template contains several Hints and a code example to guide your work.

The "`y == c`" statement creates a vector of 0's and 1's for each value of 'c' as you iterate from 1 to `num_labels`. Those are the effective 'y' values that are used for training to detect each label.

Type these commands in your workspace to see how to copy a vector into a matrix:



```
1 Q = zeros(5,3)    % create a test matrix of all-zeros
2 v = [1 2 3]';     % create a column vector
3 Q(2,:) = v         % copy v into the 2nd row of Q
```



The syntax "(2,:)" means "use all columns of the 2nd row".

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