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Test Case for validationCurve()

Tom Mosher Mentor Week 6 · 3 years ago · Edited

Here is a test case for the validationCurve() function.

Note: you may get some "division by zero" warnings. This is normal.

```
X = [1 2 ; 1 3 ; 1 4 ; 1 5];
y = [7 6 5 4]';
Xval = [1 7 ; 1 -2];
yval = [2 12]';
[lambda_vec, error_train, error_val] = validationCurve(X,y
    ,Xval,yval )

% results:
lambda_vec =
    0.00000
    0.00100
    0.00300
    0.01000
    0.03000
    0.10000
    0.30000
    1.00000
    3.00000
   10.00000

error_train =

   0.00000
   0.00000
   0.00000
   0.00000
   0.00002
   0.00024
   0.00200
   0.01736
   0.08789
   0.27778

error_val =

   0.25000
   0.25055
   0.25165
   0.25553
   0.26678
   0.30801
   0.43970
   1.00347
   2.77539
   6.80556

```

==========

keywords: test case validationcurve

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Sudhakar Mishra · 2 years ago

i don't know but why my code isn't completing all iterations before giving the result. I think that is a probable case of error in my code. this is what happening when i run my code with test cases.... Results are approximately equal to the given, but not exactly... i Think the reason is it is not iterating as per required no of times

Iteration 7 | Cost: 1.249750e-004

Iteration 24 | Cost: 3.747751e-004

Iteration 10 | Cost: 1.247505e-003

Iteration 21 | Cost: 3.727634e-003

Iteration 7 | Cost: 1.225490e-002

Iteration 11 | Cost: 3.537736e-002

Iteration 10 | Cost: 1.041667e-001

Iteration 14 | Cost: 2.343750e-001

Iteration 12 | Cost: 4.166667e-001

lambda_vec =

0.00000

0.00100

0.00300

0.01000

0.03000

0.10000

0.30000

1.00000

3.00000

10.00000

error_train =

0.00000

0.00012

0.00037

0.00125

0.00373

0.01225

0.03538

0.10417

0.23437

0.41667

error_val =

0.25000

0.25080

0.25240

0.25802

0.27419

0.33204

0.50645

1.17708

3.06836

7.08333

Tom Mosher Mentor · 2 years ago

fmincg() will stop iterating when it thinks it has found a good solution for theta.

But if you cost function doesn't work correctly, this can actually be a bad solution for theta.

I recommend you try the test cases from the Resources menu.

1 Upvote

CO Christian Pérez Ortiz · 2 years ago

Hi Mr. Mosher,

I ran my implementation with your test case and the output is: