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← Artificial Potential Field Methods

(/learn/robotics-motion-planning/module/kgNNf/discussions?sort=lastActivityAtDesc&page=1&q=)

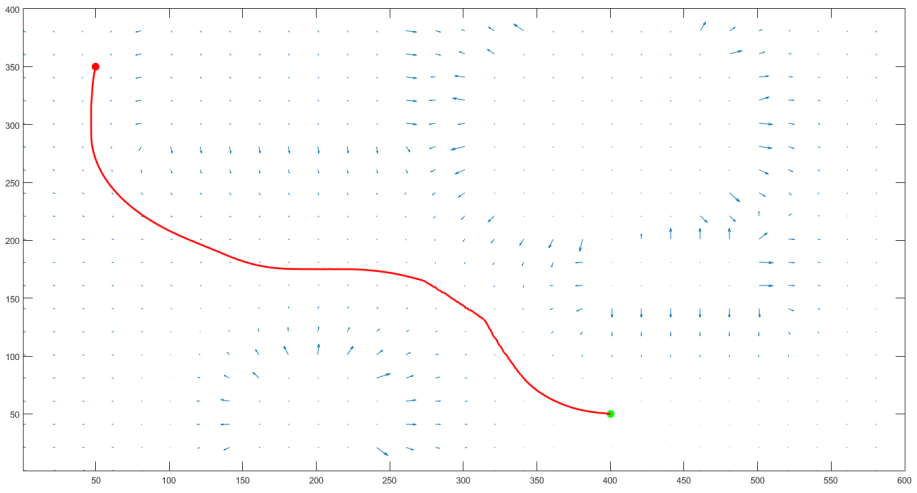
YW (/learn/robotics-motion-planning/profiles/c1482f0ba583d5824ee0b13c538ccc7b)

I got the result as showed in the video, but I got 0 points for the assessment

Yike Wang Artificial Potential Field Methods (/learn/robotics-motion-planning/module/kgNNf/discussions) · 7 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ)

Hi, guys,

I got the result as follows:



and the variable "route" is a 526*2 matrix. Unfortunately, I got 0 points in the assessment. Does anyone have an idea?

Thanks!

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KC Kamil Cherif · 7 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ)

(/learn/robotics-motion-planning/profiles/ede0c7445dc4dec78a7f9b029bd90443)

the destination node MUST NOT be included in the route. If it is included your answer will be considered wrong. So your route should be 525*2 matrix.

▲ 2 Upvote · Hide 10 Replies

YW Yike Wang · 7 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/mWkidN1ZEeWHmA6xgXAddw)

(/learn/robotics-motion-planning/profiles/c1482f0ba583d5824ee0b13c538ccc7b)

Hi. Thanks for your response!

I have tried it again and remove the end_coords from route. Now I have 525*2 matrix for route. But it's still 0 point in the assessment! My last coords in the route is (399.3798,49.6275)

▲ 0 Upvote

SS Siddharth Srivatsa Teaching Staff · 7 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/EP9EsN1oEeWHmA6xgXAddw) · Edited

(/learn/robotics-motion-planning/profiles/a7c561c0a88809f29cfea9ed763bf8a2)

Are you ensuring that the that the distance between successive locations in the route is not greater than 1.0?

▲ 0 Upvote

YW Yike Wang · 7 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/ofeDr91rEeWHmA6xgXAddw)

(/learn/robotics-motion-planning/profiles/c1482f0ba583d5824ee0b13c538ccc7b)

Hi. I have checked the distance. it looks like:

```
q =

    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
    1.0000
```

Unfortunately, if I check it using vpa, it looks like

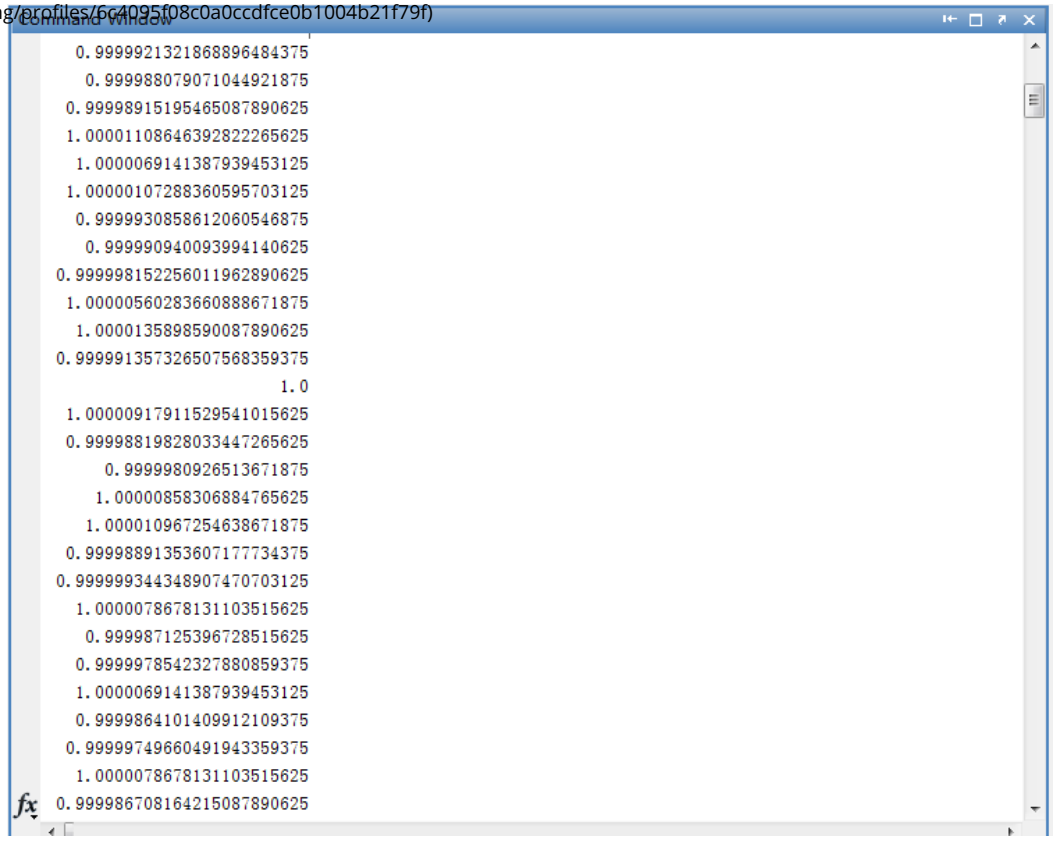
```
>> vpa(d)

ans =

   0.99999642372131347656 25
  1.00001513957977294921 875
  0.99999654293060302734 375
 0.99997836351394653320 3125
  1.00002229213714599609 375
  1.00001370906829833984 375
  1.00001704692840576171 875
     1.0000295639038085937 5
 0.99998241662979125976 5625
  0.99999630451202392578 125
   1.00001120567321777343 75
    1.00002717971801757812 5
  0.99998271465301513671 875
                        1.0
   1.00001835823059082031 25
   0.99997639656066894531 25
 0.99998277425765991210 9375
  1.00000107288360595703 125
  1.00002181529998779296 875
 0.99997776746749877929 6875
  0.99999868869781494140 625
    1.00001573562622070312 5
     0.9999742507934570312 5
 0.99999576807022094726 5625
  1.00001370906829833984 375
 0.99997287988662719726 5625
   0.99999499320983886718 75
```

I think it is numerical problems. But How to solve it?

▲ 0 Upvote

spri · 6 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/J_7tV94BEeWd6hLHI8FYwQ)

(/learn/robotics-motion-planning/profiles/6c4095f08c0a0ccdfce0b1004b21f79f)



Hi,have you solved this problem? I'm also puzzled with the precision.

▲ 0 Upvote

HC Hugo de la Cuesta · 3 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/bxybcuC7EeWUCQqPI3p2-Q)

Help Center

(/learn/robotics-motion-planning/profiles/2e4c3a35484c0743ffd9a2e81a7b527c)

Same problem Here. Distance is 1.000 always in 524 steps

I have tried 2 or 3 words to meet 525 steps but no success either

▲ 0 Upvote

JH

Jon Hauris · 3 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/p4cjJODXEeW0UA53_bxLrQ)

(/learn/robotics-motion-planning/profiles/ffaac2388f11f1556f18e26584e245c0)

Yes, how do we get it exactly or less than 1.0???

▲ 0 Upvote

YW

Yike Wang · 2 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/g06nWOE-EeW-zxKg_WwtHw)

(/learn/robotics-motion-planning/profiles/c1482f0ba583d5824ee0b13c538ccc7b)

Dear all,

actually this issue doesn't matter in the assessment!

The key is that step number should be exactly 525. As Sebastian Castro said, choose the nearest interpolation of the gradient function using round() in Matlab.

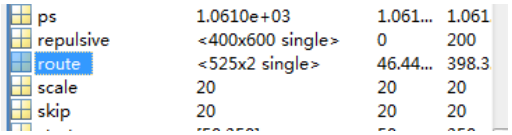
▲ 0 Upvote

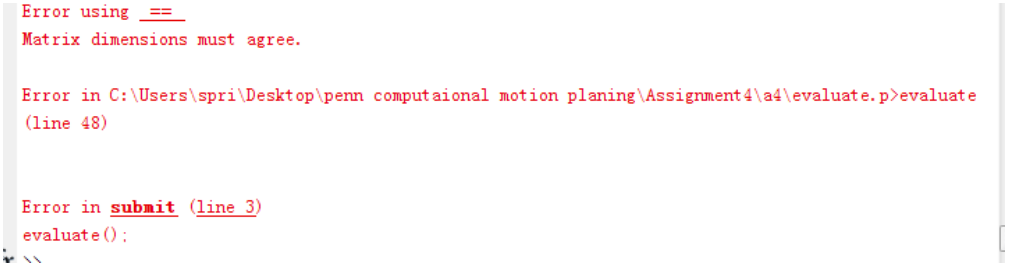
spri · 2 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/aosJTOGdEeWUBxLIsRX_2w)

(/learn/robotics-motion-planning/profiles/6c4095f08c0a0ccdfce0b1004b21f79f)

hey,I am still puzzled with the problem, the instruction file shows the route is a 2 columns and n rows matrix. When I run the PotentialFieldScript.m,I got the route 525x2 matrix. But when I run the submit.m, it says error using ==,Matrix dimensions must agree. then I transposed the route matrix,and the submit.m can be run.

and the points is still zero. I don't know how to solve it .





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TS

Thomas C Smith · 2 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/xnUYEeG5EeWkNw7bGPYHLw)

(/learn/robotics-motion-planning/profiles/03504d6f067d61d17eb35e50395dcf58)

Removing some error handling helped me move past the submit problem.

I had some code to keep the route inside the matrix boundary and submit worked when I removed it.

▲ 1 Upvote

HC

Hugo de la Cuesta · 3 minutes ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/xSRtXd1XEeWPWxKN5F2MAQ/comments/c1ReiOLyEeWMlw44hRNPDQ)

(/learn/robotics-motion-planning/profiles/2e4c3a35484c0743ffd9a2e81a7b527c)

This has solved my submit problem! Thank you Thomas.

I changed the limits for x and y.

▲ 0 Upvote

SD (/learn/robotics-motion-planning/profiles/f34069ce8df6de7dbebfedfb7e760d9f)

Reply

Reply

Sebastian Castro · 3 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/4cCBjeDaEeWUCQqPI3p2-Q)

(/learn/robotics-motion-planning/profiles/abf6b36498c04462e5e833b3a8000366)

Hi all,

I noticed another issue with submit. The grader actually cared whether I did a linear/cubic/spline/nearest neighbor interpolation of the gradient function.

I finally got it to pass with a "nearest" interpolation; that is, pick the closest integer index based on the position you're in.

The autograder really should provide some wiggle room for this assignment... I literally spent more time trying to get the "submit" to work and get full score than actually implementing the algorithm.

▲ 1 Upvote · Hide 3 Replies

JS (/learn/robotics-motion-planning/profiles/dd87870b2c4a1c78488d213aae685fb9)

Jochen Schwenninger · 2 days ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/4cCBjeDaEeWUCQqPI3p2-Q/comments/8rOhHuGAEeWUBxLIsRX_2w)

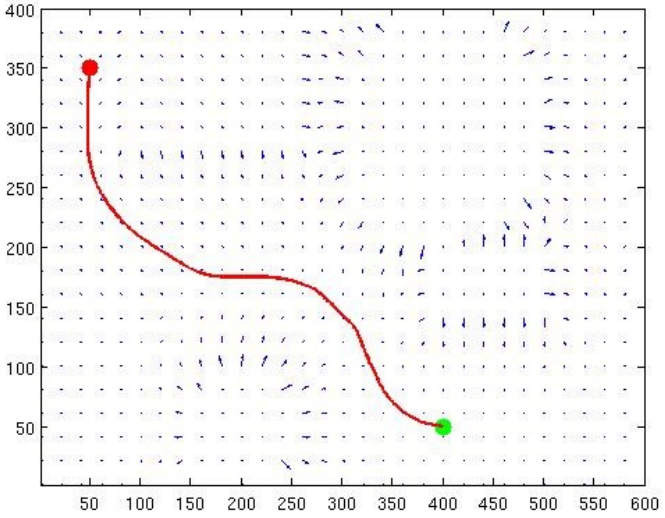
Thanks, I also had this problem!

▲ 0 Upvote

JP (/learn/robotics-motion-planning/profiles/a341d69545a67b38463c5a24e97f1adb)

José Antonio González Prieto · a day ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/4cCBjeDaEeWUCQqPI3p2-Q/comments/eTVe7eIrEeW9lxKw6HUZ1Q)

I also have that problem altough I' got this result (route size is 525,2)



Matlab gives me this:

%%%%%%%%%%%%%%%%%

Error using ==

Matrix dimensions must agree.

Error in /home/jagprieto/Escritorio/COURSERA/AERIAL_ROBOTICS/2 Computational Motion Planning/Week 4 Artificial Potential Field

Methods/ASSIGMENT/_f27afc628cfededfe7f167b77d113780_Assignment4/evaluate.p>evaluate (line 48)

%%%%%%%%%%%%%%%%%

I have to make a "strange" change in code to get this results:

point = start_coords

.....

px = min(max_x, max(1, floor(point(1))));

py = min(max_y, max(1, floor(point(2))));

point_gradient = [gx(py, px);gy(py, px)];

.....

so, it seems that coordinates in gx and gy are given in (y,x) format, not in (x,y). Anyone has found this problem?

▲ 0 Upvote

KC (/learn/robotics-motion-planning/profiles/ede0c7445dc4dec78a7f9b029bd90443) Karim Cherifi · 3 hours ago (/learn/robotics-motion-planning/module/kgNNf/discussions/OaG3-d0rEeWg_AqAJ4-koQ/replies/4cCBjeDaEeWUCQqPI3p2-Q/comments/M4gTcOLXEeWyqwpvChh66Q)

yeah indeed. they are in the (y,x) format

▲ 0 Upvote

SD (/learn/robotics-motion-planning/profiles/f34069ce8df6de7dbebfedfb7e760d9f) Reply

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1

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