LLM and Robotics

Investigation - May 2025

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Brief explanation

We want to investigate the use of Large Language Models in robotics.

We would like ***you*** to take part to our experiment!

However, we cannot give you many information to avoid biasing the experiment… for the moment.

Brief explanation

We ask you to implement a controller for the path following task.

This test *will not be* evaluated, do it just for science!

Data collection and use

We ask you the written permission to collect the following data:

- name and surname
- your robot-controller code
- your chat with an LLM
- answers to few questions

The collected *data will not be disclosed*, and anonymized at the end of the experiment.

Let’s start

Please, fill the form at this link:

https://forms.gle/scgWs3DaCmxTSyQh7

… and wait!

Two groups

Group 1

presented during the lesson

1. A
2. B
3. C
4. D
5. E
6. F
7. G
8. H
9. I

Group 2

presented during the lesson

1. A
2. B
3. C
4. D
5. E
6. F
7. G
8. H
9. I

Task

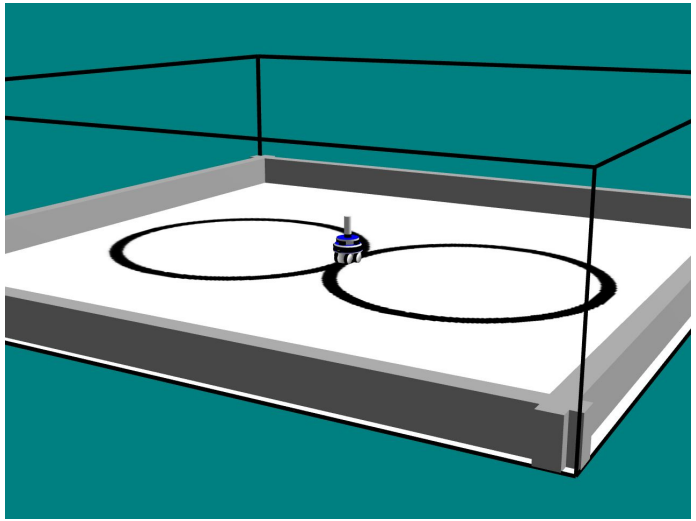
You have to implement a controller for the *path following* task.

The robot has to follow a black line on the ground, in whatever direction.

Use this function to evaluate your controller:

$$\frac{\sum_i^4 motorground\,(i)}{4} \times \left(1 - \frac{|M_l - M_r|}{2}\right) \times \max\left(0,\ \frac{M_l + M_r}{2}\right)$$

where Ml and Mr are in [-1, 1].



Rules

Do *not* share ideas or exchange opinions with your colleagues.

Do *not* use internet except to access Virtuale, Lua docs, Copilot.

You can ask *our* help if you block.

Only for group 1: *use* Copilot while writing the code (minimum 3 interactions, without logging in).

Only for group 2: *do not use any* LLM (neither Copilot).

Let’s finish

Please, fill the form at this link:

https://forms.gle/cHVieQeuZA7wB26g6

Thank you and goodbye!