Markov Localization in the CiberRato simulation environment

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Abstract. The abstract should briefly summarize the contents of the paper in 150–250 words.

Keywords: Peception · control · Markov · localization · Bayes'.

1 Introduction

1.1 Environment

1.2 Assumptions

A set of assumptions have been made in order to simplify the implementation. This set is covers not only the specificities of the maps used but also the allowed/expected motions of the robot. They are:

- the maps are 7 rows by 14 columns
- the unit is the diameter of the robot
- cells are squares with side of 2 diameter
- inner walls have a thickness of 0.2 diameter
- walls on the border of tha map are 0 thickness
- execution ends when the robot hits a wall
- motion noise does not exist
- sensor noise is gaussian with mean 0 and variance 0.1
- robot motion is deterministic
- robot only moves from left to right
- the Infra Red (IR) sensors detect the closest obstacle measured in the normal direction
- the IR sensors have a symmetric Field of View (FOV) of 60 degrees

2 Implementation

Sensores a 90 deg

2.1 Extra Tools

3 Results

References

1. Author, F.: Article title. Journal **2**(5), 99–110 (2016)
2. Author, F., Author, S.: Title of a proceedings paper. In: Editor, F., Editor, S. (eds.) CONFERENCE 2016, LNCS, vol. 9999, pp. 1–13. Springer, Heidelberg (2016). https://doi.org/10.10007/1234567890
3. Author, F., Author, S., Author, T.: Book title. 2nd edn. Publisher, Location (1999)
4. Author, A.-B.: Contribution title. In: 9th International Proceedings on Proceedings, pp. 1–2. Publisher, Location (2010)
5. LNCS Homepage, http://www.springer.com/lncs. Last accessed 4 Oct 2017