

Global path planning in Gaussian probabilistic maps

A. Sánchez, M.A. Sanz-Bobi

Abstract— This paper is focused on path planning in environments modelled using continuous probabilistic maps, in particular, maps where obstacles are modelled using the sum of Gaussian distributions. Potential field and roadmap based methods are suitable for these type of maps, but they have some disadvantages. In order to attenuate the disadvantages of the previous methods, a new method has been proposed which is a mixture of them. It performs path planning based on a potential field taking into account a roadmap as a source of potential. Besides, some experiments have been done in order to compare the performance of them.

Index Terms— Roadmap, potential field, probabilistic maps, path planning, Gaussian distribution, neural network

Due to copyright restriction we cannot distribute this content on the web. However, clicking on the next link, authors will be able to distribute to you the full version of the paper:

[Request full paper to the authors](#)

If you institution has a electronic subscription to Journal of Intelligent and Robotic Systems, you can download the paper from the journal website:

[Access to the Journal website](#)

Citation:

Sánchez, A.; Sanz-Bobi, M.A.; "Global path planning in Gaussian probabilistic maps", Journal of Intelligent and Robotic Systems, vol.40, no.1, pp.89-102. May, 2004.