

Visual FastSLAM Through Omnivision

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Fonte  [Towards Autonomous Robotic Systems 2009](#), Londonderry (UK), pp. 128-135 , 2009.

Abstract Simultaneous Localization and Mapping (SLAM) is still an open problem in mobile robotics. In this paper a SLAM algorithm using omnivision is presented. Omnidirectional cameras have a wide field of view, thus detecting landmarks over long distances, but this also requires a good data association. Our SLAM proposal is based on the well-known FastSLAM algorithm [1]. Our main contributions are the features detection and their position estimation for an omnidirectional camera (bearing-only sensor), and also the data association process based on the Hungarian algorithm. The system has been tested on a Pioneer 3-DX robot equipped with an omnidirectional camera (a camera with a fish-eye lens) and a passband infrared filter. Experiments were carried out in an exposition hall of a museum, showing a good performance, despite the uneven floor which generates a swinging on the camera and increases the error in the motion commands

DESCARGAS

 Referencia BibTex

PROGRAMAS CIENTÍFICOS

Robots persoais