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### Vision aided path planning for mobile robot (Conference Paper)

Rashidan, M.A., Mustafah, Y.M. ✉, Hamid, S.B.A., Shawgi, Y.A.M., Rashid, N.K.A.M.

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#### Abstract

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Path planning is very important for autonomous mobile robots to navigate from the beginning to the ending position. Vision aided path planning for mobile robot system is discussed in this paper. The paper reveals the accounts from a historical overview and provides a study on how to develop a single vision system for a mobile robot, which implements an obstacle avoidance algorithm, detecting the objects by the colour. Also, we aim at highlighting and analyzing the use of single vision cameras such as webcam in providing data and useful information required for navigation purposes. The system is able to detect obstacles and provide position information from the image of indoor environment. The result is accurate enough to detect the static obstacles and avoid any possible contact with that obstacle. Thus, it is best suggested that the proposed colour approach would be significant as a navigational aid for the autonomous mobile robot. © 2014 IEEE.

#### Author keywords

indoor environment mobile robot obstacle avoidance path planning vision vision cameras

#### Indexed keywords

Engineering controlled terms: Cameras Collision avoidance Computer vision Intelligent robots Mobile robots Motion planning Navigation Robot programming Vision

- Autonomous Mobile Robot
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- Obstacle avoidance algorithms
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- Static obstacles

Engineering main heading: Robots

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