# Scopus

# Document details

→] Export      ↓ Download      🖶 Print      ✉ E-mail          Save to PDF      ☆ Add to List      More... ›

[Full Text]  View at Publisher

---

## 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.

Department of Mechatronics, Kuliyyah of Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia

---

### Abstract                                     ⌄ View references (7)

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

Indoor environment

Mobile robot systems

Obstacle avoidance algorithms

Position information

Single vision

Static obstacles

Engineering main heading:          Robots

## Metrics ⓘ          View all metrics ›

1     Citation in Scopus
      60th Percentile

0     Field-Weighted
      Citation Impact

❋

PlumX Metrics                    ⌄
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

## Cited by 1 document

Path planning based on visual feedback between terrestrial and aerial robots cooperation
Ortiz, J.S. , Zapata, C.F. , Vega, A.D.
(2018) Mechanisms and Machine Science

View details of this citation

Inform me when this document is cited in Scopus:

Set citation alert ›     Set citation feed ›

## Related documents

Development of land target following system of hexacopter
Zakaria, A.H. , Mustafah, Y.M. , Hatta, M.M.M.
(2015) 2015 10th Asian Control Conference: Emerging Control Techniques for a Sustainable World, ASCC 2015

A study on acoustic imaging based on beamformer to range spectra in the phase interference method
Miyake, R. , Hayashida, K. , Nakayama, M.
(2013) Proceedings of Meetings on Acoustics

Navigation strategy for a quadruped robot on soft flat ground

Ikeda, M. , Izumi, K. , Watanabe, K.
*(2010) ICCAS 2010 - International Conference on Control, Automation and Systems*

View all related documents based on references

Find more related documents in Scopus based on:

Authors ›   Keywords ›

## References (7)

View in search results format ›

☐ All    Export    🖶 Print    ✉ E-mail    Save to PDF    Create bibliography

☐ 1   Hachour, O.
(2008) *Path Planning of Autonomous Mobile Robot*, 2 (4).

☐ 2   Green, R., Chunhui, Z.
(2010) *Vision-based Autonomous Navigation in Indoor Environments*. Cited 2 times.

☐ 3   Norlida, B., Nohaidda Sariff, S.
An overview of autonomous mobile robot planning algorithms
(2006) *4th Student Conference on Research and Development (SCORED): IEEE*

☐ 4   Sariff, N.B., Buniyamin, N.
Ant Colony System for Robot Path Planning in global static environment
(2010) *International conference on System Science and Simulation in Engineering - Proceedings*, pp. 192-197. Cited 6 times.
ISBN: 978-960474230-1

☐ 5   Norlida, B., Wan Ngah, W.A.J., Nohaidda, S., Zainuddin, M.
(2011) *A Simple Local Path Planning Algorithm for Autonomous Mobile Robots*, 5 (2).

☐ 6   Ohya, Akihisa, Kosaka, Akio, Kak, Avi
Vision-based navigation of mobile robot with obstacle avoidance by single camera vision and ultrasonic sensing
(1997) *IEEE International Conference on Intelligent Robots and Systems*, 2, pp. 704-711. Cited 22 times.

View at Publisher

☐ 7   Choudhary, A.
(2012) *Histogram of Colour Images*
Retrieved from Code Blues
http://www.codeblues.in/ip/ip8.php