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4 February 2015, Article number 7031592, Pages 28-31  
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### Autonomous navigation of mobile robot using Kinect sensor (Conference Paper)

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#### Abstract

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The problem of achieving real time process in depth camera application, in particular when used for indoor mobile robot localization and navigation is far from being solved. Thus, this paper presents autonomous navigation of the mobile robot by using Kinect sensor. By using Microsoft Kinect XBOX 360 as the main sensor, the robot is expected to navigate and avoid obstacles safely. By using depth data, 3D point clouds, filtering and clustering process, the Kinect sensor is expected to be able to differentiate the obstacles and the path in order to navigate safely. Therefore, this research requirement to propose a creation of low-cost autonomous mobile robot that can be navigated safely. © 2014 IEEE.

#### Author keywords

Kinect sensor Mobile Robot Navigation OpenCV point cloud

#### Indexed keywords

Engineering controlled terms: Clustering algorithms Indoor positioning systems Mobile robots Navigation Robot applications

- Autonomous Mobile Robot
- Autonomous navigation
- Clustering process
- Indoor mobile robots
- Kinect sensors
- OpenCV
- Point cloud
- Real-time process

Engineering main heading: Robots

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