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Tool for 3D Gazebo Map Construction from Arbitrary Images and Laser Scans

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Abstract

© 2017 IEEE. Algorithms for mobile robots, such as navigation, mapping, and SLAM, require proper modelling of environment. Our paper presents an automatic tool that allows creating a realistic 3D-landscape in Gazebo simulation, which is based on the real sensor-based experimental results. The tool provides an occupancy grid map automatic filtering and import to Gazebo framework as a heightmap and enables to configure the settings for created simulation environment. In addition, the tool is capable to create a 3D Gazebo map from any arbitrary image.

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Keywords

Gazebo, heightmap, map filtering, occupancy grid, octomap, ROS

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