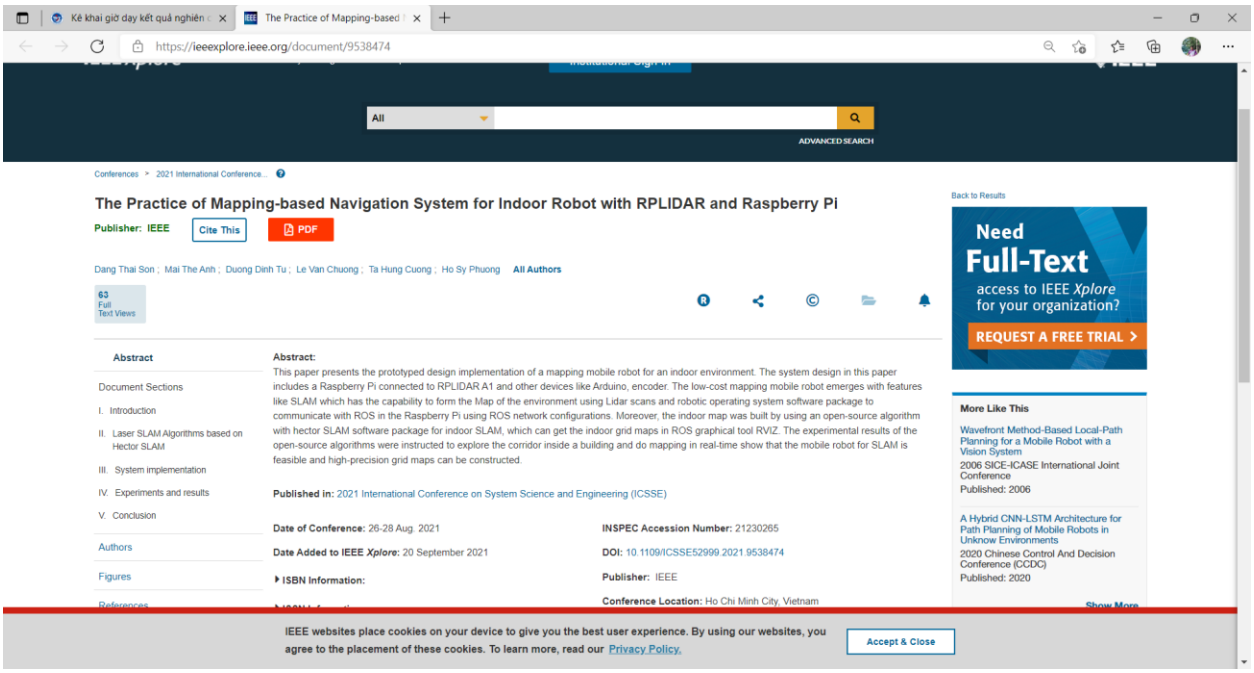
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The Practice of Mapping-based Navigation System for Indoor Robot with RPLIDAR and Raspberry Pi
Publisher: IEEE
Cite This
PDF
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63
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Abstract
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Abstract:
This paper presents the prototyped design implementation of a mapping mobile robot for an indoor environment. The system design in this paper includes a Raspberry Pi connected to RPLIDAR A1 and other devices like Arduino, encoder. The low-cost mapping mobile robot emerges with features like SLAM which has the capability to form the Map of the environment using Lidar scans and robotic operating system software package to communicate with ROS in the Raspberry Pi using ROS network configurations. Moreover, the indoor map was built by using an open-source algorithm with hector SLAM software package for indoor SLAM, which can get the indoor grid maps in ROS graphical tool RVIZ. The experimental results of the open-source algorithms were instructed to explore the corridor inside a building and do mapping in real-time show that the mobile robot for SLAM is feasible and high-precision grid maps can be constructed.
Published in: 2021 International Conference on System Science and Engineering (ICSSE)
Date of Conference: 26-28 Aug. 2021
Date Added to IEEE Xplore: 20 September 2021
ISBN Information:
INSPEC Accession Number: 21230265
DOI: 10.1109/ICSSE52999.2021.9538474
Publisher: IEEE
Conference Location: Ho Chi Minh City, Vietnam
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