Plant Suggestion and Monitoring Robot

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Abstract

The goal of all agricultural production is to produce goods economically and efficiently while using the fewest re- sources possible. Nonetheless, agricultures return on investment has been steadily declining. This study combines several approaches in the form of a multipurpose robot to improve the precision of agricultural decision-making. Four novel features of the robot are revealed. An advanced autonomous navigation system based on the well-established Turtle-bot architecture, innovative environmental monitoring, and analysis tool for detecting any unexpected changes in the environment, and an environmental and soil monitoring and visualization tool would be used to maintain equal strands throughout the entire cultivation area. A program that monitors the lands environmental and soil conditions and generates intelligent crop recommendations for the initial phase of cultivation. The robot is designed to support cultivation from the starting phase to well-established cultivation in an efficient manner.

Keywords

Gazebo; ROS, RViz, Gmapping, Li-DAR sensor, Navigation, SLAM, Robot model, Packages.