DEVELOPTMENT OF NAVIGATION ON ROS BASED HUMANOID ROBOT

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

DEVELOPMENT OF NAVIGATION
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Development of bipedal robots have been performed for 5 (five) consecutive studies in Swiss German University. From each research, the number of joints have been increased from 6 DoF (Degree of Freedom) to 12 DoF.

The goal of this thesis is to create the bipedal robot into a humanoid robot that use Robot Operating System (ROS). ROS is used here due to its capabilities that makes robot development more versatile. The humanoid robot will use Dynamixel AX-12A servos and an Intel Realsense R200, a stereo vision camera. With the camera installed on the humanoid robot, the robot will be equipped with obstacle avoidance algorithm to make the robot able to navigate.

Keywords: humanoid robot, ROS, obstacle avoidance, Dynamixel, Intel Realsense

DEDICATION

I dedicate this work to Almighty God

My family

My friends

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