

WSN ROBOT FOR UNREACHABLE AREAS

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

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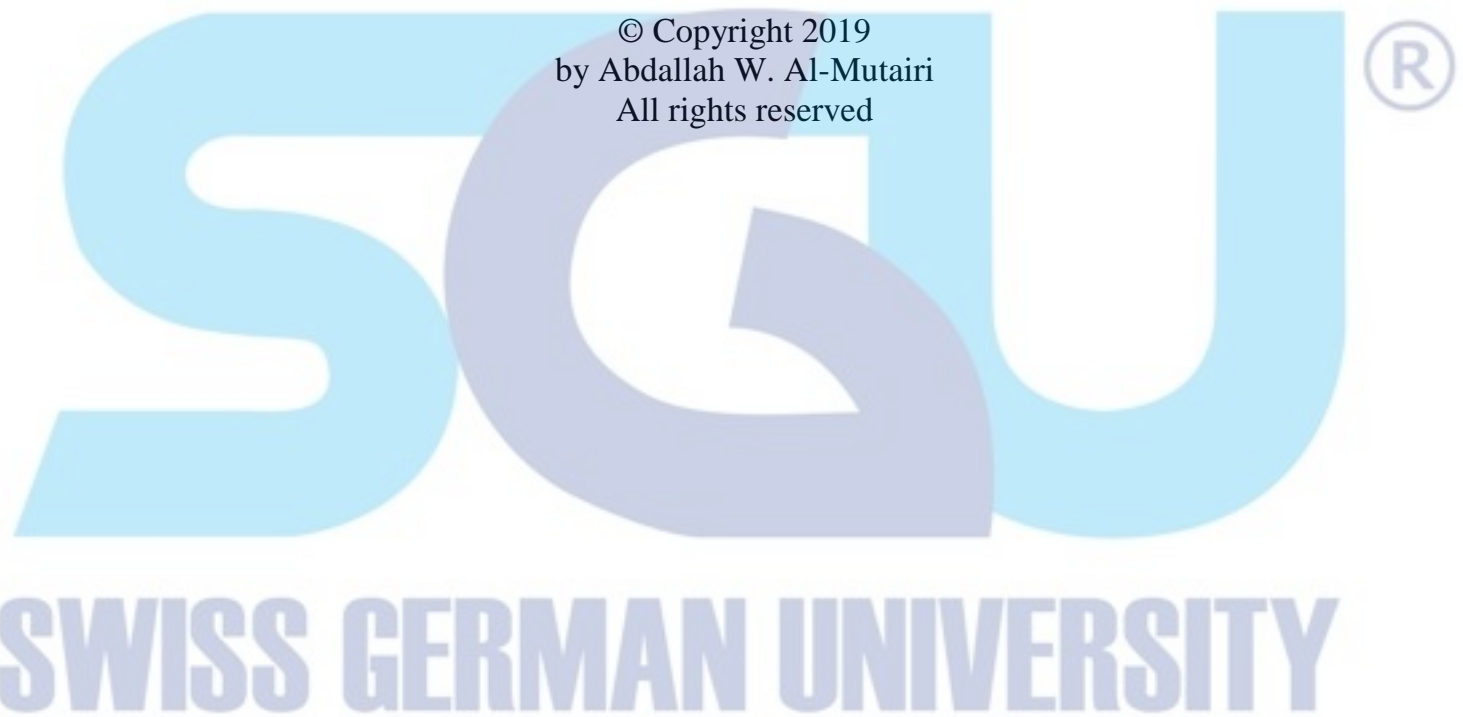
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This research presents a hybrid robot with two manipulator arms and two cameras that move on XY plate built on a rover robot base. The proposed robot system will be controlled wirelessly via wear suit that contains special flexible sensors and accelerometers to detect the operator movements and direct interaction with robot in the same time and direction.

The main purpose of the implemented robot system is to replace human in difficult jobs such as moving heavy and rocks things while constructing building , that's through The human (operator) who controls the robot will have virtual reality glasses that will provide his eyes with images from cameras, since each camera will deliver an image to its corresponding eye. Therefore, 3D video can be achieved, beside that cameras XY plate on robot will move depending on human head movements that is determined via virtual reality glasses accelerometer sensor. In this thesis , the design and implementation of the proposed robot system will be discussed, , the most important results achieved are the Wireless control is implemented and the Flexible sensors were used successfully , also the Control via human movement is achieved , On-line audio and video transmission is applied and The ability of new user defined extra sensors is available .

Keywords: Robots, Wireless communication, Wireless sensor networks, Manipulators, Virtual reality.

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DEDICATION

To my parents that without them not found in this life, and from them learned to withstand, no matter what the difficulties.

To my all dear teachers from them I picked up the letters and learned how to pronounce words, formulate phrases, and control the rules.

To colleagues, who spared no effort in providing information and data.

Calling upon the Almighty to be crowned with success and acceptance by the members of the distinguished discussion committee.

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