

DEVELOPING A SINGLE CAMERA AND LINE LASER VISION SYSTEM
IN ORDER TO CAPTURE 2D AND DEPTH IMAGE
TO BE USED BY A TRANSFORMABLE FOUR-WHEELED LEGGED ROBOT

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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, 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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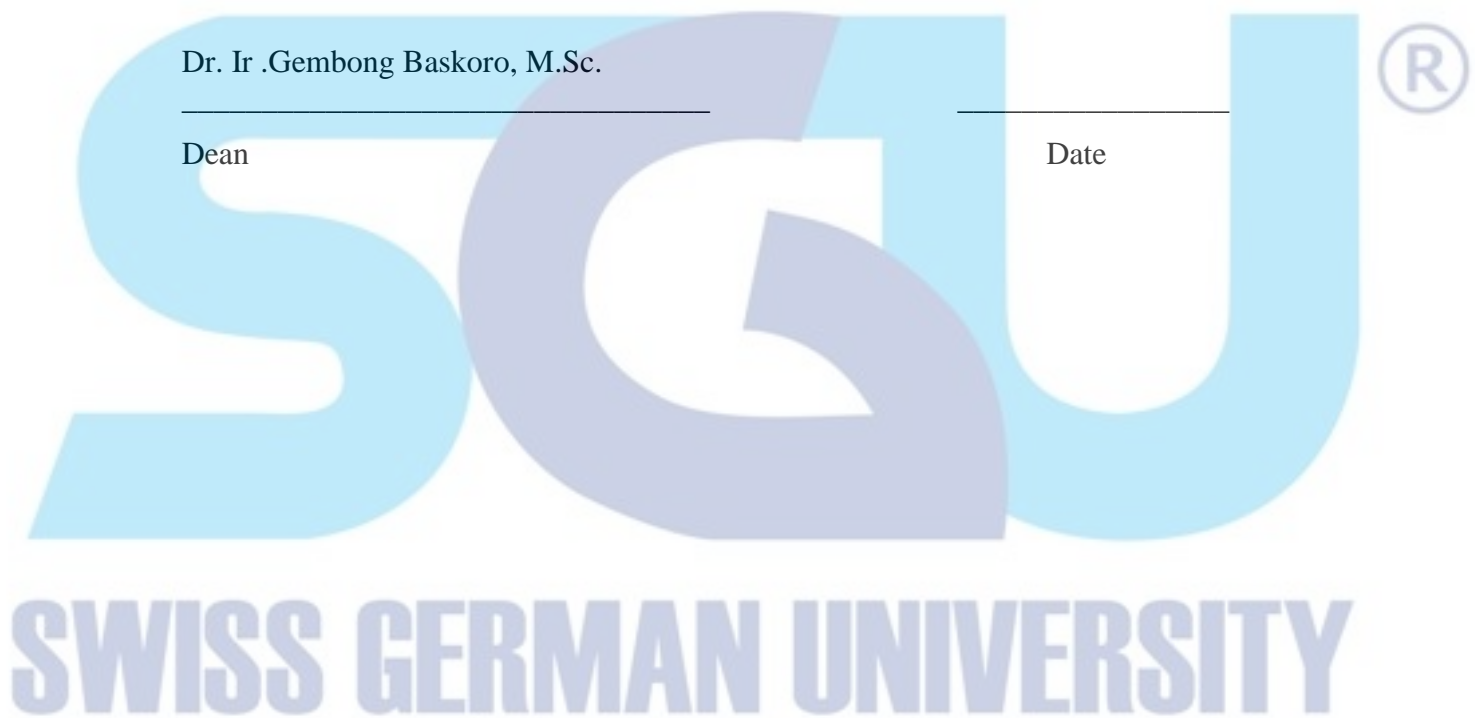
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ABSTRACT

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The objective of this thesis work is to develop a single camera and line laser vision system to measure distance and detect object. This vision system will be used in transformable four-wheeled legged robot project. With this vision system the robot can avoid the obstacle with calculating the distance from the object using triangulation method. A camera will capture video of line laser towards the object. Android box will facilitate video stream to the computer via Wi-Fi. The video then is processed in computer using program that was created using OpenCV™ library and Qt© creator.

Keywords: Vision system, line laser, camera, android box, triangulation method



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DEDICATION

I dedicate this thesis to God, my parents and my friends for their support and motivation.



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