VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama" Belagavi – 590 010

PROJECT REPORT

ON

"DESIGN OF ROBOTIC ARM FOR TRASH COLLECTION AND SEPERATION"

Submitted in partial fulfillment of the requirements for the award of the degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled "DESIGN OF ROBOTIC ARM FOR TRASH COLLECTION AND SEPERATION" is a bona fide work carried out by

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in partial fulfillment for the award of BACHELOR of ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2017–2018. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering degree.

24/05/18	D.V. 24/05/18	
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ABSTRACT

The rising population of India poses serious threats with regard to the availability of living space, utilization of natural resources and raw materials, education and employment. But another serious peril that follows is the escalating amount of waste generated each minute by an individual. An astounding 0.1 million tons of waste is generated each day in India. Sadly, only 5% of this colossal amount of waste is recycled. One possible solution for this problem could be segregating the waste at the disposal level itself. In India, the collection, transportation and disposal of municipal solid waste (MSW) are unscientific and chaotic. Uncontrolled dumping of waste on outskirts of towns and cities has created overflowing landfills which are not only impossible to reclaim because of the haphazard manner of dumping but also has serious environmental implication in terms of ground water pollution and contribution to global warming. This has found to reduce the average life span of the manual segregators. Developing a mechanized system to help save the lives of many and making the world a cleaner and a greener place is the noble objective of our project.

This proposed system is going to collect some database of garbage images where it need to train those images and need to get some features of all the images and then by using the pi-camera it is going to capture a real time image then has need to detect the features of that particular image whether it is a garbage image r not if yes then it will checks for the segregation either dry or wet waste by using k-NN algorithm. Then if there is no garbage on the road then raspberry pi will inform the robot to move forward. If there is any waste present on the road then according to the segregated it will pick and place the garbage in specific direction.