SAPTHAGIRI COLLEGE OF ENGINEERING

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Department of Computer Science and Engineering

Certificate

Certified that the project work entitled **"Fruit Harvesting using Image Processing"** carried out by **Ravi Roshan (1SG13CS085), Satyam Kumar Suman (1SG13CS096), Shanu Singh (1SG13CS099), Shashank Shekhar (1SG13CS101),** bonafide students of **this institute,** in fulfillment for the award of **Bachelor of Engineering** in **Computer Science and Engineering** of **Visvesvaraya Technological University, Belgaum** during the academic year **2016-17.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The project progress report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said degree.

Signature of the Guide

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ABSTRACT

In agricultural and food industry, the proper grading of fruits is very important to increase the profitability. Recent advances in computer vision present a broad range of advanced object detection techniques that could improve the quality of fruit detection from RGB images drastically. The proposed fruit harvesting system improves the detection of fruits, mainly in the case of fruit clusters by using average RGB color mixer algorithm and shape matrix algorithm. System integrates application specific color information to ensure a more stable output of the fully automated detection algorithm. Finally, system make suggestions for efficient fruit cluster separation. The technique validates different fruits and proves to have large benefits in the field of automated harvest and crop estimation. The decision for identifying the fruit as row or ripe is taken by comparing the detected pixels with the threshold.