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Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	**Ms_CJAST_78060**
Title of the Manuscript:	**DEVELOPMENT OF COMPUTER VISION SYSTEM FOR FRUITS**
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
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PART 1: **Review Comments**

	Reviewer's comment	**Author's comment***(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**Abstract** Writing the abstract as, one or two sentences "background", two or three sentences "methods", and less than ten sentences "results". Remove **unnecessary** detailed information from the abstract section such "The fruit to be tested is placed on the circular slab and the USB camera captures images and send them to the PC for classification. The classified output is sent from PC to Arduino microcontroller via serial port. The Arduino Microcontroller sends this digital output to PIC Microcontroller for displaying the classified output on LCD. A small door mechanism is fixed on the conveyor system. This door opens when the detected fruit is bad or unripe and rejects the fruit from the conveyor. This door closes when the detected fruit is good or ripe and travels along the conveyor."and rewrite it. **A clear statement of the work scope and contribution are needed.** **No mention of any reference quality standards (locally or internationally)** 1. generic expression for classifying fruit quality as "good" or "bad". 2. No distinguish between fruit types, maturity nature (Climacteric and Non-Climacteric Fruits, etc.), and the optimum number of the training images, concerning measurement accuracy or precision? **A detailed description of the work** 1. Fruit classification prototype, scaled engineering drawings are needed (science, the publishing of the work aims to give a chance to other interested researchers to verify the work) 2. In material section, lack of detailed parts specification (model, manufacturer, version, accuracy, precision etc) **Writing correction and clarity e*.g.*** No distinguish between scientific expressions (design vs specifications page 6 line 16) No distinguish between scientific expressions (test vs inspection page 1 line 13) No distinguish between scientific expressions (illness vs disease page 2 line14) Figures 1, and 4 are not clear to examine (colour and resolution issues) Figure 1, flow chart must be clear in operation flow (connection arrows) or you can replace it with a control flow chart A figure to illustrate components and layers Page 1 line 33 "..creation and supply of the new products of the soil to the sellers and markets.." Page 2 line 13 "assessment of nitrogen recognition plant" Page 2 line 20 "In the recent past, efforts.."	
Minor REVISION comments		

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Optional/Generalcomments	With respect to the author/s efforts to perform such "**search**", the work is poor in scientific writing, lack of sentence clarity and order, Lack in materials and methods standard techniques. And poor distribution of titles/paragraphs according to the scope of the work and importance. For best reviewing results, page and line numbers are required (for the Journal board to consider in manuscript forms) I encourage the author to rewrite the paper with much concern to the flow of the sentence and paragraph without interruption to the main ideas and to let figures and engineering drawings illustrate the detailed construction of the prototype There is no data to confirm some of the author/s claim in the inspection time reduction compared with other inspection systems There is no data to confirm some of the author/s claim of the system lower cost? I recommend the author /s to review the Nazrul Ismail, Owais A. Malik, Real-time visual inspection system for grading fruits using computer vision and deep learning techniques, Information Processing in Agriculture, 2021, , ISSN 2214-3173, https://doi.org/10.1016/j.inpa.2021.01.005. (https://www.sciencedirect.com/science/article/pii/S2214317321000056) Abstract: Traditional manual visual grading of fruits has been one of the important challenges faced by the agricultural industry due to its laborious nature as well as inconsistency in inspection and classification process. Automated defects detection using computer vision and machine learning has become a promising area of research with a high and direct impact on the domain of visual inspection. In this study, we propose an efficient and effective machine vision system based on the state-of-the-art deep learning techniques and stacking ensemble methods to offer a non-destructive and cost-effective solution for automating the visual inspection of fruits' freshness and appearance. We trained, tested and compared the performance of various deep learning models including ResNet, DenseNet, MobileNetV2, NASNet and EfficientNet to find the best model for the grading of fruits. The proposed system also provides a real time visual inspection using a low cost Raspberry Pi module with a camera and a touchscreen display for user interaction. The real time system efficiently segments multiple instances of the fruits from an image and then grades the individual objects (fruits) accurately. The system was trained and tested on two data sets (apples and bananas) and the average accuracy was found to be 99.2% and 98.6% using EfficientNet model for apples and bananas test sets, respectively. Additionally, a slight improvement in the recognition rate (0.03% for apples and 0.06% for bananas) was noted while applying the stacking ensemble deep learning methods. The performance of the developed system has been found higher than the existing methods applied to the same data sets previously. Further, during real-time testing on actual samples, the accuracy was found to be 96.7% for apples and 93.8% for bananas which indicates the efficacy of the developed system. Keywords: Deep learning; Fruit classification; Computer vision; Real-time system; Raspberry Pi; Agriculture	

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PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

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