

ABSTRACT

CAMINADE, LILYNN S., Davao del Sur State College (DSSC), ICET, Matti, Digos City, June 2024, "**ANDROID-BASED POSTHARVEST GRADING CLASSIFICATION OF CAVENDISH BANANA USING DEEP LEARNING AND INTERNET OF THINGS**". Undergraduate Capstone Project Manuscript.

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This study is combined deep learning and the Internet of things, which used of microcontroller and android devices. An application and weight machine, may be risks of mistakes and consistent of grade classification result of image processing and difficulties in obtaining the weight value of the Cavendish banana. The Rapid Application Development is the help to established an application with weight measurements to capture images and classify the grade classification of the banana. The pre-trained model using the teachable machine. The datasets gathered and captured the banana based on the postharvest grading classification: Class A, Class B, Cluster and Totally Reject. The android app is capable of captured image, classify the grading classification of the Cavendish banana with weight detected with the help of weight scale machine do perform and also the captured images and classify of the postharvest grading

classification of the banana with weight measurement of the banana and displayed the information on the application. This study contributes to the modern-farming technology in the industries of agriculture and manufacturing to help workers fasten the performance and productions and along with adapting new technology into agri-technology and also to the economy be more imports and exports globally and this study helps the agri-farming and plantation industries and in importing and exporting quality products globally.

Keywords: *android-based, cavendish banana, image classification, internet of things, machine learning*

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AND INTERNET OF THING**

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