

**Deteksi Kematangan Buah Melon (*Cucumis Melo L.*) Menggunakan
Convolutional Neural Network (Detection of Melon (*Cucumis Melo L.*) Ripeness
Using Convolutional Neural Network)
Zilvanhisna Emka Fitri,S.T.,M.T as Academic Supervisor**

Daroqutnie Alfarizy¹ Zilvanhisna Emka Fitri²)
*Study Program of Informatics Engineering
Majoring in Information Technology*

ABSTRACT

*Detecting the ripeness of melons (*Cucumis melo L.*) is a crucial step in ensuring the quality of the fruit before it is marketed. Determining the right level of ripeness can increase consumer satisfaction and reduce losses caused by unripe or overripe fruits. This study aims to develop a melon ripeness detection model using Convolutional Neural Network (CNN), a deep learning method effective in image analysis. In this research, melon images were collected and labeled based on ripeness levels: unripe, ripe, and overripe, with a total dataset of 295 images. The CNN model was built and trained using this dataset with a learning rate of 0.001 to identify visual features associated with fruit ripeness. The results showed that the developed CNN model could classify melon ripeness with high accuracy, reaching 90%. This model is expected to be used as a tool in the agricultural industry to automatically and efficiently detect fruit ripeness, reducing reliance on subjective human assessments.*

Keyword : *Detection of melon ripeness, Convolutional Neural Network*