# ABSTRACT

This research is based on the popularity of watermelon in Indonesia. The amount of public interest in watermelon is not followed by public knowledge of whether or not watermelon is ripe or not sold in the market. This resulted in many people being exposed to fraud. For this reason, researchers want to create an Android-based watermelon detection tool using Machine learning and deep earning. Machine learning here uses the KNN and MFCC methods, then Deep learning uses the CNN method.

By patting the watermelon fruit can produce a different output from the loudness, so that the tapped watermelon can be known the degree of maturity. The loud sound released on watermelon is produced because of the content contained in watermelon itself, especially in the water content. In ripe watermelons, of course, the water content is a lot so that the sound produced is not too loud, while young fruits will sound loud because there is still a little water content. From the result of study, has been tested to produce the level of accuracy CNN is 70 to 80%. This this research has the main purpose to educate the public about the ripeness of watermelon, and avoid fraud when buying it.

Keywords : Watermelon, Mature, Machine learning, Deep learning, Android