DEVELOPMENT OF AN ORANGE FRESHNESS CLASSIFICATION SYSTEM USING THE NAÏVE BAYES ALGORITHM

GUNTUR FIRMANSYAH

Informatics Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : gunturfirmansyah232@gmail.com

ABSTRACT

Oranges are one of the most popular fruits in the world. Oranges are citrus fruits that contain lots of vitamin C and anti-oxidants which are useful for increasing the body's immunity and helping fight infections and flu. Citrus fruits grow in many tropical areas, one of which is Indonesia. Indonesia is a large country with excellent natural resources to build a citrus fruit industry. Current technology makes it possible to classify digital images. There are several image classification algorithms, one of which is Naïve Bayes. The Naïve Bayes method classifies data based on probability and the Bayesian theorem which assumes each variable is independent. In this research the Naïve Bayes algorithm was built using Python language from scratch. The data used is 133 image data which is divided into 2 classes, namely good oranges and damaged/rotten oranges. The highest accuracy results were obtained with a training data and test data sharing ratio of 50%:50%, the accuracy obtained was 72.7% for training and 62.6% for testing.

Keywords: Orange, Implementation, Classification, Algorithm, Naïve Bayes