ABSTRACT

Infants or toddlers are an age group that is vulnerable to nutritional problems. One of the problems related to nutrition that often occurs is stunting. Stunting is a health problem because it is associated with the risk of morbidity and mortality. And one of the factors causing stunting in infants or toddlers is due to the lack of parental knowledge of the nutritional content of complementary food ingredients. Therefore, effective preventive measures are needed to overcome this problem. This project is present to develop a detection system that will display the nutritional content of complementary food ingredients with the method of work carried out through 2 stages, the first is the development of a Machine Learning model using the Convolutional Neural Network (CNN) algorithm using the MobileNetV2 architecture to detect complementary food ingredients and the second is to match the complementary food ingredients produced from the Machine Learning model with the existing database, where the database used is firebase which contains nutritional content information taken from the website https://nilaigizi.com/. The goal is to help parents in knowing the nutritional content of complementary food ingredients. The goal is to help parents in knowing the nutrition contained in complementary food ingredients easily. By using the python programming language, as well as google colab as software to support the algorithm development process, as well as the use of the java programming language and android studio as software for the user interface development process and nutrition detection. The dataset used consists of 11 labels of basic ingredients of frequently used complementary foods obtained from the kaggle website and through the scrapping method from the internet. From the results of the training dataset, the accuracy of the dataset/train is 98% and the accuracy of the test/real data is 96%. And the application built can display nutritional detection results that match the input object. The results of this project are expected to support the development of nutritional science on complementary food ingredients.

Keywords: Convolutional Neural Network (CNN), Detection, Nutrition, Machine Learning, Complementary Feeding.