ABSTRACT

The COVID-19 pandemic that attacked Indonesia in 2020 caused many Indonesians to be unable to carry out activities outside their homes. Therefore, cases of diabetes in that year increased significantly. In addition, the behavior of not keeping the pattern causes the risk of getting the disease to be very large. The International Diabetes Federation predicts that by 2045, there will be 28.57 million people with diabetes in Indonesia. The lack of education provided by the government regarding the importance of exercising and maintaining a healthy diet can become a serious problem if left unchecked.

That's where FitVerse comes in, in the form of an Android application that can scan groceries and exercise movements. The application performs a scan of food ingredients, which will then display the output in the form of the name of the food and the nutritional value of the food. On scanning the workout movement, the output that appears is the name of the workout movement and an explanation of the workout movement.

The Xception architecture used in food ingredient scanning has an accuracy above 90%. The Inception-V3 architecture used for scanning exercise movements has an F1-Score of 96.6%. The FitVerse app can educate people about the food they eat and the exercise they do. The use of Firebase as a database makes the application size more efficient in storage capacity. However, there is a suggestion to increase the amount of data on sports movements.

Key words : Android, Convolutional Neural Network, food ingredients, workout movement