

ABSTRACT

The Covid-19 pandemic has changed all human activities, including taekwondo. The speed kicking taekwondo match cannot be held as usual due to government policy that prohibits people from gathering in one place. So taekwondo match is done online which is less effective.

In this study, a left foot kick classification tool was designed using the MPU 6050 sensor and raspberry pi zero and can send the classification results to smartphone via bluetooth. The dimensions of the tool are made as small as possible with purpose to not disturb the athlete. The Support Vector Machine algorithm is used to classify the types of kicks, namely *ap chagi* and *dollyo chagi*.

The result of training shows that max extraction has the best accuracy rate of 91,07%. A survey to three subject shows that the device is not disturbing the user. System testing was carried out on three subjects by kicking *ap chagi* and *dollyo chagi* 30 times. The average test accuracy is 61,87% for *ap chagi* and 81,03% for *dollyo chagi*. The *smartphone* application can receive the classification results with 100% accuracy.

Keyword : Taekwondo, Classification, MPU6050, Bluetooth, Support Vector Machine