Abstract

Indonesia is a country that has a high risk of natural disasters, especially earthquakes that cause harm to all living things. Many victims were unable to save themselves because they were trapped somewhere because of the lack of information on the earthquake that was happening. For this reason, a tool that can detect earthquakes is needed and warns the public in realtime to take action in the event of an earthquake. Seismographs are used to measure and record earthquakes that occur. However, seismographs are only owned by agencies such as BMKG (Meteorology, Climatology and Geophysics Agency), which is because the prices of these items are so expensive that not all people who know about earthquake warnings that occur especially in communities that occur in the earthquake zone. Giving earthquake warnings in realtime using an accelerometer sensor that serves to determine the state of the ground during an earthquake that has an output value at the x and y coordinates. Support Vector Machine classification is used to classify earthquakes based on soil movement which is replaced by magnitude magnitude using the magnitude formula. The time needed to detect the earthquake was around 3.93 seconds. The classification results using the Support Vector Machine method have an accuracy of around 99.36%.

Keywords: earthquake, sensor accelerometer, classification, support vector machine