ABSTRACT

Natural disasters are natural events that have a major impact on humans that come suddenly, anywhere, to anyone and cannot be avoided by anyone. Indonesia is a country that has a high level of vulnerability to natural disasters. One of the natural disasters that often hit Indonesia are earthquakes, tsunamis, volcanic eruptions, floods, droughts, hurricanes, landslides, and others. The location and time of occurrence of natural disasters that cannot be predicted by humans which then has the potential to take many lives.

The fast and precise handling of arrests by the SAR (search and rescue) team is one of the efforts to reduce the number of people who lose their lives. But in reality, the SAR team experienced problems during the process of taking victims. Starting from terrain that is difficult to reach to the limited equipment needed. One solution to the problems that occur due to delays in post-disaster handling is to develop tools that can assist the identification process so that it can facilitate the search for victims after a natural disaster.

In this study implemented a system to be able to detect victims of natural disasters which aims to help develop equipment for the SAR team to find victims of natural disasters based on image processing. Image processing is intended to detect whether victims of natural disasters are still alive or not. The algorithm used to detect whether or not there are victims uses the You Only Look Once (YOLO) version 5 method which has a high enough value of 90.75% to be able to detect human objects. After being detected by humans, the system will continue the live or dead detection through the specified skeleton point using Tensorflow MoveNet with 100% accuracy from the 14 videos tried.

Keywords**:** *Natural Disasters, Object Detection, Computer Vision, You Only Look Once (YOLO), Tensorflow, MoveNet*.