

ABSTRACT

Human activity recognition is one of the technologies to monitor a person's dynamism. Generally, to introduce human activities, they still use a camera, but the camera has weaknesses that depend on the intensity of the light. Therefore, the use of radar is highly prioritized for human activity recognition systems, because it is contactless, and does not depend on light. The system of recognition of human activities using radar will be very helpful because radar can read human movements with just one tool.

This research is a implementation of the use of FMCW Radar. This identification system is made by analyzing statistical characteristics in the data and assisted using the Change Point Detection (CPD) algorithm. With the existence of a system of identifying the moment of human movement, it is hoped that the technology for the system of recognition of human activities can be implemented in various fields.

The research on identifying changes in motion using fmcw radar, succeeded in detecting changes in people's motion with an average accuracy obtained above 80%. Data testing was carried out with 6 types of movement changes, with 3 main movements being stationary, walking, and crawling. The results of the study were obtained using 2 different CPD methods. The main result was an average accuracy of 93.24% using CPD with a threshold and as a comparison got an average accuracy result of 83.02% using CPD with a ruptures algorithm.

Keywords : *Human Activity Recognition, Radar, Change Point Detection*