

## **ABSTRACT**

Human Activity Recognition (HAR) is a field that automatically recognizes and categorizes human activities based on data collected from wearables, smart homes, and other IoT devices. Recognizing human activity is not an easy task because an action can occur periodically, and two activities can have almost similar properties in terms of signals received from sensors. Also, how an activity is performed may differ from person to person. This study describes how to identify a specific type of human physical activity using human pose detection. Human pose detection involves detecting critical key points that can describe the orientation or movement of the human body by correlating them with critical points of the body to detect body parts of interest. Therefore, proposing a method to label and mark activity transitions between two consecutive activities using body key detection and machine learning classifiers as the fundamental human activity recognition in the learning and classification module can improve the prediction probability of Human Activity Recognition. The combination of these two techniques improves the performance of the Human Activity Recognition system, making it more accurate in recognizing complex and varied human activities.

**Keywords:** Human Activity Recognition, Machine Learning, Activity transitions, Sensors