

Abstract

Increase the percentage the elderly in five decades, which is about 8,97 percent and 10 percent of them there are elderly people living alone. Many researchers developed a prediction to detect or fall when someone is doing the daily activity. Accelerometer gyroscope is a sensor which often used in the daily living activity, but output data from both the sensor still pose noise so that necessary denoising to reduce noise from its sensor data. On this research will use kalman filter algorithm for denoising accelerometer and gyroscope signal and effect the kalman filter on both censor based on MSE measurements. The result of this research are kalman filter can improve the accuracy of KNN classification in $k=1$ until $k=10$.

Keywords: ADL, denoising, kalman filter, accelerometer, gyroscope.