

Performance evaluation of deep learning techniques for human activity recognition system

Abstract

Human Activity Recognition (HAR) is crucial in various applications, such as sports and surveillance. This paper focuses on the performance evaluation of a HAR system using deep learning techniques. Features will be extracted using 3DCNN, and classification will be performed using LSTM. Meanwhile, 3DCNN and RNN are two additional, well-known classification techniques that will be applied in order to compare the effectiveness of the three classifiers. The 3DCNN-LSTM approach contributes the highest overall accuracy of 86.57%, followed by 3DCNN-3DCNN and 3DCNN-RNN with the overall accuracy of 86.07% and 79.60%, respectively. Overall, this paper contributes to the field of HAR and provides valuable insights for the development of activity recognition systems.

Keywords

Learning algorithms; Pattern recognition