Deep learning for multi-resident activity recognition in ambient sensing smart homes

ABSTRACT

Advances in smart home technology and IoT devices has enabled us for monitoring of human activities for their health status and efficient energy consumption. Machine learning has been a great tool for the prediction of human activities. However, Multi-resident activity recognition is still a challenge as there is no direct correlation between sensor values and resident activities. In this paper, we have displayed the state of art deep learning algorithms on the real-world ARAS multi-resident dataset, which consists of data from two houses each with two residents. We have used different variations of RNN on the dataset and measured their performance with fewer data and more data and with data generated with GAN.