NTUST, CSIE
Introduction to IoT Data Analytics
(CS3049701, 選修), Fall 2019

Homework 1 – part C [total: 7pts]

Due date: Nov. 27

Question 1.5. [7pts] Continue working on the activity recognition task and finish the following two parts.

(a) Use a data analytics method (support vector machines, artificial neural networks, deep learning, etc.) to plug-in your sliding window procedure to recognize the activity for a given moment. You can try either *batch* mode or *online* mode or both in your recognition; although the online mode is preferred. Let us be clear on this online mode. We are not asking that you need to understand your activity in the current moment when you run the data collection procedure in your cellular phone. Instead, you download all the data from your cellular phone, then read the data one after another and recognize what the corresponding activity is for the new data you just received. Of course, you need to specify what the window size is where you operate the activity recognition for each such window.

(b) Consider another similar dataset that is also about activity recognition, but a bigger and more robust one and test your activity recognition methodology once again. The dataset is called MotionSense Dataset, from Kaggle: https://www.kaggle.com/malekzadeh/motionsense-dataset. Let me know if you have any questions or concerns on this dataset.

(c) We have 24 participants on this dataset. A cross-people study is encouraged!

Answer this question by writing a mini-report (about one page long). You should make your report as complete and as precise as possible. Basically, readers who read your report should be able to re-do your experiments without too much efforts once they read your report.