Code book

Original data which is used to generate this data is UCI HAR DATASET (Human Activity Recognition Using Smartphones Dataset). UCI HAR DATASET dataset can be found from url: "https://d396qusza40orc.cloudfront.net/getdata%2Fprojectfiles%2FUCI%20HAR%20Dataset.zip"

License about source/original data used:

Use of this dataset in publications must be acknowledged by referencing the following publication [1]

[1] Davide Anguita, Alessandro Ghio, Luca Oneto, Xavier Parra and Jorge L. Reyes-Ortiz. Human Activity Recognition on Smartphones using a Multiclass Hardware-Friendly Support Vector Machine. International Workshop of Ambient Assisted Living (IWAAL 2012). Vitoria-Gasteiz, Spain. Dec 2012

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Jorge L. Reyes-Ortiz, Alessandro Ghio, Luca Oneto, Davide Anguita. November 2012.

File

- **Datafile**: tidydata.txt
- **Columnames**: columnames exist in first row
- **Column separator**: " "
- **Decimal separator**: "."
- **Rows in file**: 180 obseravtion rows + 1 header row
- **Column number** 68
- no rownames

Variables

In this data there is two type of variables. First two columns give information of activity and subjects. Those are activities that is performed by volunteers (subject id) of orginal study. I call those columns to Identifier columns, be course combination of those two column gives unique key for measure variables.

Other columns are measure variables (also columns in this case). Those columns include numerical measured information.

Identifier columns

- activity
    - Activity label, actity performed by volunteer (subjectid)
    - Type: character
    - Values: LAYING, SITTING, STANDING, WALKING, WLKING_DOWNSTAIRS, WALKING_UPSTAIRS

- subjectid
    - Identifier of volunteer
    - Type: Numeric - Integer
    - Values: 1 to 30

Summary of Identifier columns

Identifier Column/Variable	Class	nbrOfNonNullValues	Values
ctivity	character	180	LAYING, SITTING, STANDING, WALKING, WALKING_DOWNSTAIRS, WALKING_UPSTAIRS
subjectid	integer	180	1 to 30

Measure columns

- All measure columns are numeric.
- Decimal separator is "."
- Negative sign symbol for value is "-".
- Letters (-X, -Y, -Z) in variables name is used to denote 3-axial signals in the X, Y and Z directions.
- Originals features was normalized and bounded within [-1,1]. In this data every feature measure is aggregated by mean function.
- On original data prefix 't' was to denote time, this 't' is changed to word' time' in this data set.
- On original data prefix 'f' was to indicate frequency domain signals, this 'f' is changed to word 'freq' in this data set

Summary of Measure Columns, next page

Measure Column/Variable	Class	nbrOfNonNullValues	Min (2 digits)	Mean (2 digits)	Max (2 digits)
timeBodyAccMean-X	numeric	180	0.22	0.27	0.3
timeBodyAccMean-Y	numeric	180	-0.04	-0.02	0
timeBodyAccMean-Z	numeric	180	-0.15	-0.11	-0.08
timeBodyAccStdDev-X	numeric	180	-1	-0.56	0.63
timeBodyAccStdDev-Y	numeric	180	-0.99	-0.46	0.62
timeBodyAccStdDev-Z	numeric	180	-0.99	-0.58	0.61
timeGravityAccMean-X	numeric	180	-0.68	0.7	0.97
timeGravityAccMean-Y	numeric	180	-0.48	-0.02	0.96
timeGravityAccMean-Z	numeric	180	-0.5	0.07	0.96
timeGravityAccStdDev-X	numeric	180	-1	-0.96	-0.83
timeGravityAccStdDev-Y	numeric	180	-0.99	-0.95	-0.64
timeGravityAccStdDev-Z	numeric	180	-0.99	-0.94	-0.61
timeBodyAccJerkMean-X	numeric	180	0.04	0.08	0.13
timeBodyAccJerkMean-Y	numeric	180	-0.04	0.01	0.06
timeBodyAccJerkMean-Z	numeric	180	-0.07	0	0.04
timeBodyAccJerkStdDev-X	numeric	180	-0.99	-0.59	0.54
timeBodyAccJerkStdDev-Y	numeric	180	-0.99	-0.57	0.36
timeBodyAccJerkStdDev-Z	numeric	180	-0.99	-0.74	0.03
timeBodyGyroMean-X	numeric	180	-0.21	-0.03	0.19
timeBodyGyroMean-Y	numeric	180	-0.2	-0.07	0.03
timeBodyGyroMean-Z	numeric	180	-0.07	0.09	0.18
timeBodyGyroStdDev-X	numeric	180	-0.99	-0.69	0.27
timeBodyGyroStdDev-Y	numeric	180	-0.99	-0.65	0.48
timeBodyGyroStdDev-Z	numeric	180	-0.99	-0.62	0.56
timeBodyGyroJerkMean-X	numeric	180	-0.16	-0.1	-0.02
timeBodyGyroJerkMean-Y	numeric	180	-0.08	-0.04	-0.01
timeBodyGyroJerkMean-Z	numeric	180	-0.09	-0.05	-0.01
timeBodyGyroJerkStdDev-X	numeric	180	-1	-0.7	0.18
timeBodyGyroJerkStdDev-Y	numeric	180	-1	-0.76	0.3
timeBodyGyroJerkStdDev-Z	numeric	180	-1	-0.71	0.19
timeBodyAccMagnitudeMean	numeric	180	-0.99	-0.5	0.64
timeBodyAccMagnitudeStdDev	numeric	180	-0.99	-0.54	0.43
timeGravityAccMagnitudeMean	numeric	180	-0.99	-0.5	0.64
timeGravityAccMagnitudeStdDev	numeric	180	-0.99	-0.54	0.43
timeBodyAccJerkMagnitudeMean	numeric	180	-0.99	-0.61	0.43
timeBodyAccJerkMagnitudeStdDev	numeric	180	-0.99	-0.58	0.45
timeBodyGyroMagnitudeMean	numeric	180	-0.98	-0.57	0.42
timeBodyGyroMagnitudeStdDev	numeric	180	-0.98	-0.63	0.3
timeBodyGyroJerkMagnitudeMean	numeric	180	-1	-0.74	0.09
timeBodyGyroJerkMagnitudeStdDev	numeric	180	-1	-0.76	0.25
freqBodyAccMean-X	numeric	180	-1	-0.58	0.54
freqBodyAccMean-Y	numeric	180	-0.99	-0.49	0.52

freqBodyAccMean-Z	numeric	180	-0.99	-0.63	0.28
freqBodyAccStdDev-X	numeric	180	-1	-0.55	0.66
freqBodyAccStdDev-Y	numeric	180	-0.99	-0.48	0.56
freqBodyAccStdDev-Z	numeric	180	-0.99	-0.58	0.69
freqBodyAccJerkMean-X	numeric	180	-0.99	-0.61	0.47
freqBodyAccJerkMean-Y	numeric	180	-0.99	-0.59	0.28
freqBodyAccJerkMean-Z	numeric	180	-0.99	-0.71	0.16
freqBodyAccJerkStdDev-X	numeric	180	-1	-0.61	0.48
freqBodyAccJerkStdDev-Y	numeric	180	-0.99	-0.57	0.35
freqBodyAccJerkStdDev-Z	numeric	180	-0.99	-0.76	-0.01
freqBodyGyroMean-X	numeric	180	-0.99	-0.64	0.47
freqBodyGyroMean-Y	numeric	180	-0.99	-0.68	0.33
freqBodyGyroMean-Z	numeric	180	-0.99	-0.6	0.49
freqBodyGyroStdDev-X	numeric	180	-0.99	-0.71	0.2
freqBodyGyroStdDev-Y	numeric	180	-0.99	-0.65	0.65
freqBodyGyroStdDev-Z	numeric	180	-0.99	-0.66	0.52
freqBodyAccMagnitudeMean	numeric	180	-0.99	-0.54	0.59
freqBodyAccMagnitudeStdDev	numeric	180	-0.99	-0.62	0.18
freqBodyAccJerkMagnitudeMean	numeric	180	-0.99	-0.58	0.54
freqBodyAccJerkMagnitudeStdDev	numeric	180	-0.99	-0.6	0.32
freqBodyGyroMagnitudeMean	numeric	180	-0.99	-0.67	0.2
freqBodyGyroMagnitudeStdDev	numeric	180	-0.98	-0.67	0.24
freqBodyGyroJerkMagnitudeMean	numeric	180	-1	-0.76	0.15
freqBodyGyroJerkMagnitudeStdDev	numeric	180	-1	-0.77	0.29