Code Book for
Human Activity Recognition Using Smartphones Data Set

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Study Design

The Human Activity Recognition data set was built from the recordings of 30 subjects performing activities while carrying a waist-mounted smartphone with embedded inertial sensors. [1]

RStudio 2021.09.0 running on Windows 10 was using to download, unzip, extract, clean, merge and aggregate the raw data set.

The run_analysis.R script contains the script that performs the step-by-step data ingestion and cleaning as well as the production of two tidy data files. tidy_dataset1.csv contains the raw average and standard deviation metrics associated with corresponding activities and subjects. tidy_dataset2.csv contains the averages of the averages and standard deviations in tidy_dataset1.csv grouped by activity and subject.

Code Book

While tidy_dataset1.csv and tidy_dataset2.csv contain the same variables.

Variable	DataType	Unit	VariableNameCensored
ActivityID	Ordinal	N/A	FALSE
ActivityDesc	Categorical	N/A	FALSE
SubjectID	Ordinal	N/A	FALSE
tBodyAcc-mean()-X	Continuous	g's (gravity of earth)	FALSE
tBodyAcc-mean()-Y	Continuous	g's (gravity of earth)	FALSE
tBodyAcc-mean()-Z	Continuous	g's (gravity of earth)	FALSE
tBodyAcc-std()-X	Continuous	g's (gravity of earth)	FALSE
tBodyAcc-std()-Y	Continuous	g's (gravity of earth)	FALSE
tBodyAcc-std()-Z	Continuous	g's (gravity of earth)	FALSE
tGravityAcc-mean()-X	Continuous	g's (gravity of earth)	FALSE
tGravityAcc-mean()-Y	Continuous	g's (gravity of earth)	FALSE
tGravityAcc-mean()-Z	Continuous	g's (gravity of earth)	FALSE
tGravityAcc-std()-X	Continuous	g's (gravity of earth)	FALSE
tGravityAcc-std()-Y	Continuous	g's (gravity of earth)	FALSE
tGravityAcc-std()-Z	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerk-mean()-X	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerk-mean()-Y	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerk-mean()-Z	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerk-std()-X	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerk-std()-Y	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerk-std()-Z	Continuous	g's (gravity of earth)	FALSE
tBodyGyro-mean()-X	Continuous	rad/seg	FALSE
tBodyGyro-mean()-Y	Continuous	rad/seg	FALSE
tBodyGyro-mean()-Z	Continuous	rad/seg	FALSE
tBodyGyro-std()-X	Continuous	rad/seg	FALSE

Variable	DataType	Unit	VariableNameCensored
tBodyGyro-std()-Y	Continuous	rad/seg	FALSE
tBodyGyro-std()-Z	Continuous	rad/seg	FALSE
tBodyGyroJerk-mean()-X	Continuous	rad/seg	FALSE
tBodyGyroJerk-mean()-Y	Continuous	rad/seg	FALSE
tBodyGyroJerk-mean()-Z	Continuous	rad/seg	FALSE
tBodyGyroJerk-std()-X	Continuous	rad/seg	FALSE
tBodyGyroJerk-std()-Y	Continuous	rad/seg	FALSE
tBodyGyroJerk-std()-Z	Continuous	rad/seg	FALSE
tBodyAccMag-mean()	Continuous	g's (gravity of earth)	FALSE
tBodyAccMag-std()	Continuous	g's (gravity of earth)	FALSE
tGravityAccMag-mean()	Continuous	g's (gravity of earth)	FALSE
tGravityAccMag-std()	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerkMag-mean()	Continuous	g's (gravity of earth)	FALSE
tBodyAccJerkMag-std()	Continuous	g's (gravity of earth)	FALSE
tBodyGyroMag-mean()	Continuous	rad/seg	FALSE
tBodyGyroMag-std()	Continuous	rad/seg	FALSE
tBodyGyroJerkMag-mean()	Continuous	rad/seg	FALSE
tBodyGyroJerkMag-std()	Continuous	rad/seg	FALSE
fBodyAcc-mean()-X	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-mean()-Y	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-mean()-Z	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-std()-X	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-std()-Y	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-std()-Z	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-meanFreq()-X	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-meanFreq()-Y	Continuous	g's (gravity of earth)	FALSE
fBodyAcc-meanFreq()-Z	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-mean()-X	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-mean()-Y	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-mean()-Z	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-std()-X	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-std()-Y	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-std()-Z	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-meanFreq()-X	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-meanFreq()-Y	Continuous	g's (gravity of earth)	FALSE
fBodyAccJerk-meanFreq()-Z	Continuous	g's (gravity of earth)	FALSE
fBodyGyro-mean()-X	Continuous	rad/seg	FALSE
fBodyGyro-mean()-Y	Continuous	rad/seg	FALSE
fBodyGyro-mean()-Z	Continuous	rad/seg	FALSE
fBodyGyro-std()-X	Continuous	rad/seg	FALSE
fBodyGyro-std()-Y	Continuous	rad/seg	FALSE
fBodyGyro-std()-Z	Continuous	rad/seg	FALSE
fBodyGyro-meanFreq()-X	Continuous	rad/seg	FALSE
fBodyGyro-meanFreq()-Y	Continuous	rad/seg	FALSE
fBodyGyro-meanFreq()-Z	Continuous	rad/seg	FALSE
fBodyAccMag-mean()	Continuous	g's (gravity of earth)	FALSE
fBodyAccMag-std()	Continuous	g's (gravity of earth)	FALSE
fBodyAccMag-meanFreq()	Continuous	g's (gravity of earth)	FALSE
fBodyBodyAccJerkMag-mean()	Continuous	g's (gravity of earth)	FALSE
fBodyBodyAccJerkMag-std()	Continuous	g's (gravity of earth)	FALSE
fBodyBodyAccJerkMag-meanFreq()	Continuous	g's (gravity of earth)	FALSE
fBodyBodyGyroMag-mean()	Continuous	rad/seg	FALSE
fBodyBodyGyroMag-std()	Continuous	rad/seg	FALSE

Variable	DataType	Unit	VariableNameCensored
fBodyBodyGyroMag-meanFreq()	Continuous	rad/seg	FALSE
fBodyBodyGyroJerkMag-mean()	Continuous	rad/seg	FALSE
fBodyBodyGyroJerkMag-std()	Continuous	rad/seg	FALSE
fBodyBodyGyroJerkMag-meanFreq()	Continuous	rad/seg	FALSE

Bibliography

[1] UCI Center for Machine Learning and Intelligent Systems, “Human Activity Recognition Using Smartphones Data Set,” 24 10 2021. [Online]. Available: http://archive.ics.uci.edu/ml/datasets/Human+Activity+Recognition+Using+Smartphones.