

DATA DICTIONARY

Human Activity Recognition Using Smartphones Dataset

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Extract extracted data with only mean, std, activity, subject columns

Information on data sets

Number of Instances:	10299	Area:	Computer
Number of Attributes:	141	Number of subjects for the experiment:	20

The set of variables that were estimated from the signals are:

- ❖ mean(): Mean value
- ❖ std(): Standard deviation

The signals were used to estimate variables of the feature vector for each pattern:

'-XYZ' is used to denote 3-axial signals in the X, Y and Z directions.

LIST OF VARIABLES

Variable	Description	Class	Values						
TimeBodyAccelerometerMean()-X	Mean of TimeBodyAccelerometer for X	num	0.289	0.278	0.28	0.279	0.277	..	.
TimeBodyAccelerometerMean()-Y	Mean of TimeBodyAccelerometer for Y	num	-	-	-	-	-	..	.
			0.0203	0.0164	0.0195	0.0262	0.0166		
TimeBodyAccelerometerMean()-Z	Mean of TimeBodyAccelerometer for Z	num	-0.133	-0.124	-0.113	-0.123	-0.115	..	.
TimeBodyAccelerometerSTD()-X	Standard deviation of TimeBodyAccelerometer for X	num	-0.995	-0.998	-0.995	-0.996	-0.998	..	.
TimeBodyAccelerometerSTD()-Y	Standard deviation of TimeBodyAccelerometer for Y	num	-0.983	-0.975	-0.967	-0.983	-0.981	..	.
TimeBodyAccelerometerSTD()-Z	Standard deviation of TimeBodyAccelerometer for Z	num	-0.914	-0.96	-0.979	-0.991	-0.99	..	.
TimeGravityAccelerometerMean()-X	Mean of TimeGravityAccelerometer for X	num	0.963	0.967	0.967	0.968	0.968	..	.
TimeGravityAccelerometerMean()-Y	Mean of TimeGravityAccelerometer for Y	num	-0.141	-0.142	-0.142	-0.144	-0.149	..	.
TimeGravityAccelerometerMean()-Z	Mean of TimeGravityAccelerometer for Z	num	0.1154	0.1094	0.1019	0.0999	0.0945	..	.

Variable	Description	Class	Values						
TimeGravityAccelerometerSTD()-X	Standard deviation of TimeGravityAccelerometer for X	num	-0.985	-0.997	-1	-0.997	-0.998	..	.
TimeGravityAccelerometerSTD()-Y	Standard deviation of TimeGravityAccelerometer for Y	num	-0.982	-0.989	-0.993	-0.981	-0.988	..	.
TimeGravityAccelerometerSTD()-Z	Standard deviation of TimeGravityAccelerometer for Z	num	-0.878	-0.932	-0.993	-0.978	-0.979	..	.
TimeBodyAccelerometerJerkMean()-X	Mean of TimeBodyAccelerometer for Jerk - X	num	0.078	0.074	0.0736	0.0773	0.0734	..	.
TimeBodyAccelerometerJerkMean()-Y	Mean of TimeBodyAccelerometer for Jerk - Y	num	0.005	0.0057 7	0.0031	0.0200 6	0.0191 2	..	.
TimeBodyAccelerometerJerkMean()-Z	Mean of TimeBodyAccelerometer for Jerk - Z	num	- 0.0678 3	0.0293 8	- 0.0090 5	- 0.0098 6	0.0167 8	..	.
TimeBodyAccelerometerJerkSTD()-X	Standard deviation of TimeBodyAccelerometer for Jerk - X	num	-0.994	-0.996	-0.991	-0.993	-0.996	..	.
TimeBodyAccelerometerJerkSTD()-Y	Standard deviation of TimeBodyAccelerometer for Jerk - Y	num	-0.988	-0.981	-0.981	-0.988	-0.988	..	.
TimeBodyAccelerometerJerkSTD()-Z	Standard deviation of TimeBodyAccelerometer for Jerk - Z	num	-0.994	-0.992	-0.99	-0.993	-0.992	..	.
TimeBodyGyroscopeMean()-X	Mean of TimeBodyGyroscope -X	num	- 0.0061	- 0.0161	- 0.0317	- 0.0434	-0.034	..	.

Variable	Description	Class	Values						
TimeBodyGyroscopeMean()-Y	Mean of TimeBodyGyroscope -Y	num	-	-	-	-	-	..	
			0.0314	0.0839	0.1023	0.0914	0.0747	.	
TimeBodyGyroscopeMean()-Z	Mean of TimeBodyGyroscope -Z	num	0.1077	0.1006	0.0961	0.0855	0.0774	..	
								.	
TimeBodyGyroscopeSTD()-X	Standard deviation of TimeBodyGyroscope -X	num	-0.985	-0.983	-0.976	-0.991	-0.985	..	
								.	
TimeBodyGyroscopeSTD()-Y	Standard deviation of TimeBodyGyroscope -Y	num	-0.977	-0.989	-0.994	-0.992	-0.992	..	
								.	
TimeBodyGyroscopeSTD()-Z	Standard deviation of TimeBodyGyroscope -Y	num	-0.992	-0.989	-0.986	-0.988	-0.987	..	
								.	
TimeBodyGyroscopeJerkMean()-X	Mean of TimeBodyGyroscope - Jerk-X	num	-	-	-	-	-	..	
			0.0992	0.1105	0.1085	0.0912	0.0908	.	
TimeBodyGyroscopeJerkMean()-Y	Mean of TimeBodyGyroscope - Jerk-Y	num	-	-	-	-	-	..	
			0.0555	0.0448	0.0424	0.0363	0.0376	.	
TimeBodyGyroscopeJerkMean()-Z	Mean of TimeBodyGyroscope - Jerk-Z	num	-0.062	-	-	-	-	..	
				0.0592	0.0558	0.0605	0.0583	.	
TimeBodyGyroscopeJerkSTD()-X	Standard deviation of TimeBodyGyroscope -Jerk-X	num	-0.992	-0.99	-0.988	-0.991	-0.991	..	
								.	
TimeBodyGyroscopeJerkSTD()-Y	Standard deviation of TimeBodyGyroscope -Jerk-Y	num	-0.993	-0.997	-0.996	-0.997	-0.996	..	
								.	

Variable	Description	Class	Values						
TimeBodyGyroscopeJerkSTD()-Z	Standard deviation of TimeBodyGyroscope -Jerk-Z	num	-0.992	-0.994	-0.992	-0.993	-0.995	..	.
TimeBodyAccelerometerMagnitudeMean()	Mean of TimeBodyAccelerometerMagnitude	num	-0.959	-0.979	-0.984	-0.987	-0.993	..	.
TimeBodyAccelerometerMagnitudeSTD()	Standard deviation of TimeBodyAccelerometerMagnitude	num	-0.951	-0.976	-0.988	-0.986	-0.991	..	.
TimeGravityAccelerometerMagnitudeMean()	Mean of TimeGravityAccelerometerMagnitu de	num	-0.959	-0.979	-0.984	-0.987	-0.993	..	.
TimeGravityAccelerometerMagnitudeSTD()	Standard deviation of TimeGravityAccelerometerMagnitu de	num	-0.951	-0.976	-0.988	-0.986	-0.991	..	.
TimeBodyAccelerometerJerkMagnitudeMean() Mean of imeBodyAccelerometerJerkMagnitude	Mean of TimeBodyAccelerometerJerkMagnit ude	num	-0.993	-0.991	-0.989	-0.993	-0.993	..	.
TimeBodyAccelerometerJerkMagnitudeSTD()	Standard deviation TimeBodyAccelerometerJerkMagnit ude	num	-0.994	-0.992	-0.99	-0.993	-0.996	..	.
TimeBodyGyroscopeMagnitudeMean()	Mean of TimeBodyGyroscopeMagnitude	num	-0.969	-0.981	-0.976	-0.982	-0.985	..	.
TimeBodyGyroscopeMagnitudeSTD()	Standard deviation of	num	-0.964	-0.984	-0.986	-0.987	-0.989	..	.

Variable	Description	Class	Values					
	TimeBodyGyroscopeMagnitude							.
TimeBodyGyroscopeJerkMagnitudeMean()	Mean of TimeBodyGyroscopeJerkMagnitude	num	-0.994	-0.995	-0.993	-0.996	-0.996	.. .
TimeBodyGyroscopeJerkMagnitudeSTD()	Standard deviation of TimeBodyGyroscopeJerkMagnitude	num	-0.991	-0.996	-0.995	-0.995	-0.995	.. .
FrequencyBodyAccelerometerMean()-X	Mean of FrequencyBodyAccelerometer - X	num	-0.995	-0.997	-0.994	-0.995	-0.997	.. .
FrequencyBodyAccelerometerMean()-Y	Mean of FrequencyBodyAccelerometer - Y	num	-0.983	-0.977	-0.973	-0.984	-0.982	.. .
FrequencyBodyAccelerometerMean()-Z	Mean of FrequencyBodyAccelerometer - Z	num	-0.939	-0.974	-0.983	-0.991	-0.988	.. .
FrequencyBodyAccelerometerSTD()-X	Standard deviation of FrequencyBodyAccelerometer - X	num	-0.995	-0.999	-0.996	-0.996	-0.999	.. .
FrequencyBodyAccelerometerSTD()-Y	Standard deviation of FrequencyBodyAccelerometer - Y	num	-0.983	-0.975	-0.966	-0.983	-0.98	.. .
FrequencyBodyAccelerometerSTD()-Z	Standard deviation of FrequencyBodyAccelerometer - Z	num	-0.906	-0.955	-0.977	-0.99	-0.992	.. .
FrequencyBodyAccelerometerMeanFreq()-X	MeanFreq of FrequencyBodyAccelerometer - X	num	0.252	0.271	0.125	0.029	0.181	.. .

Variable	Description	Class	Values						
FrequencyBodyAccelerometerMeanFreq()-Y	MeanFreq of FrequencyBodyAccelerometer - Y	num	0.1318	0.0429	-	0.0803	0.058	..	.
					0.0646				
FrequencyBodyAccelerometerMeanFreq()-Z	MeanFreq of FrequencyBodyAccelerometer - Z	num	-	-	0.0827	0.1857	0.5598	..	.
			0.0521	0.0143					
FrequencyBodyAccelerometerJerkMean()-X	Mean of FrequencyBodyAccelerometerJerk - X	num	-0.992	-0.995	-0.991	-0.994	-0.996	..	.
FrequencyBodyAccelerometerJerkMean()-Y	Mean of FrequencyBodyAccelerometerJerk - Y	num	-0.987	-0.981	-0.982	-0.989	-0.989	..	.
FrequencyBodyAccelerometerJerkMean()-Z	Mean of FrequencyBodyAccelerometerJerk - Z	num	-0.99	-0.99	-0.988	-0.991	-0.991	..	.
FrequencyBodyAccelerometerJerkSTD()-X	Standard deviation of FrequencyBodyAccelerometerJerk - X	num	-0.996	-0.997	-0.991	-0.991	-0.997	..	.
FrequencyBodyAccelerometerJerkSTD()-Y	Standard deviation of FrequencyBodyAccelerometerJerk - Y	num	-0.991	-0.982	-0.981	-0.987	-0.989	..	.
FrequencyBodyAccelerometerJerkSTD()-Z	Standard deviation of FrequencyBodyAccelerometerJerk - X	num	-0.997	-0.993	-0.99	-0.994	-0.993	..	.

Variable	Description	Class	Values						
FrequencyBodyAccelerometerJerkMeanFreq()-X	MeanFreq of FrequencyBodyAccelerometerJerk - X	num	0.8704	0.6085	0.1154	0.0358	0.2734	..	.
FrequencyBodyAccelerometerJerkMeanFreq()-Y	MeanFreq of FrequencyBodyAccelerometerJerk - y	num	0.2107	-	-	-0.093	0.0791	..	.
				0.0537	0.1934				.
FrequencyBodyAccelerometerJerkMeanFreq()-Z	MeanFreq of FrequencyBodyAccelerometerJerk - z	num	0.2637	0.0631	0.0383	0.1681	0.2924	..	.
FrequencyBodyGyroscopeMean()-X	Mean of FrequencyBodyGyroscope -X	num	-0.987	-0.977	-0.975	-0.987	-0.982	..	.
FrequencyBodyGyroscopeMean()-Y	Mean of FrequencyBodyGyroscope -Y	num	-0.982	-0.993	-0.994	-0.994	-0.993	..	.
FrequencyBodyGyroscopeMean()-Z	Mean of FrequencyBodyGyroscope -Z	num	-0.99	-0.99	-0.987	-0.987	-0.989	..	.
FrequencyBodyGyroscopeSTD()-X	Standard deviation of FrequencyBodyGyroscope -X	num	-0.985	-0.985	-0.977	-0.993	-0.986	..	.
FrequencyBodyGyroscopeSTD()-Y	Standard deviation of FrequencyBodyGyroscope -y	num	-0.974	-0.987	-0.993	-0.992	-0.992	..	.
FrequencyBodyGyroscopeSTD()-Z	Standard deviation of FrequencyBodyGyroscope -z	num	-0.994	-0.99	-0.987	-0.989	-0.988	..	.

Variable	Description	Class	Values						
FrequencyBodyGyroscopeMeanFreq()-X	MeanFreq of FrequencyBodyGyroscope-X	num	-	-	-	0.2169	-	..	
			0.2575	0.0482	0.2167		0.1533	.	
FrequencyBodyGyroscopeMeanFreq()-Y	MeanFreq of FrequencyBodyGyroscope-y	num	0.0979	-	-	-	-	..	
				0.4016	0.0173	0.1352	0.0884	.	
FrequencyBodyGyroscopeMeanFreq()-Z	MeanFreq of FrequencyBodyGyroscope-Z	num	0.5472	-	-	-	-	..	
				0.0682	0.1107	0.0497	0.1622	.	
FrequencyBodyAccelerometerMagnitudeMean()	Mean of FrequencyBodyAccelerometerMagn itude	num	-0.952	-0.981	-0.988	-0.988	-0.994	..	
								.	
FrequencyBodyAccelerometerMagnitudeSTD()	Standard deviation of FrequencyBodyAccelerometerMagn itude	num	-0.956	-0.976	-0.989	-0.987	-0.99	..	
								.	
FrequencyBodyAccelerometerMagnitudeMeanFreq()	MeanFreq of FrequencyBodyAccelerometerMagn itude	num	-	-	0.2579	0.0736	0.3943	..	
			0.0884	0.0441				.	
FrequencyBodyAccelerometerJerkMagnitudeMean()	MagnitudeMean of FrequencyBodyAccelerometerJerk	num	-0.994	-0.99	-0.989	-0.993	-0.996	..	
								.	
FrequencyBodyAccelerometerJerkMagnitudeSTD()	MagnitudeStandard deviation of FrequencyBodyAccelerometerJerk	num	-0.994	-0.992	-0.991	-0.992	-0.994	..	
								.	
FrequencyBodyAccelerometerJerkMagnitudeMeanFreq()	MagnitudeMean of FrequencyBodyAccelerometerJerk	num	0.347	0.532	0.661	0.679	0.559	..	
								.	

Variable	Description	Class	Values					
FrequencyBodyGyroscopeMagnitudeMean()	MagnitudeMean of FrequencyBodyGyroscope	num	-0.98	-0.988	-0.989	-0.989	-0.991	.. .
FrequencyBodyGyroscopeMagnitudeSTD()	Magnitude Standard deviation FrequencyBodyGyroscope	num	-0.961	-0.983	-0.986	-0.988	-0.989	.. .
FrequencyBodyGyroscopeMagnitudeMeanFreq()	MagnitudeMeanFreq of FrequencyBodyGyroscope	num	-0.129	-0.272	-	-	-	.. .
					0.2127	0.0357	0.2736	
FrequencyBodyGyroscopeJerkMagnitudeMean()	MagnitudeMean of FrequencyBodyGyroscope Jerk	num	-0.992	-0.996	-0.995	-0.995	-0.995	.. .
FrequencyBodyGyroscopeJerkMagnitudeSTD()	Magnitude Standard deviation of FrequencyBodyGyroscope Jerk	num	-0.991	-0.996	-0.995	-0.995	-0.995	.. .
FrequencyBodyGyroscopeJerkMagnitudeMeanFreq()	MagnitudeMeanFreq of FrequencyBodyGyroscope Jerk	num	-	0.1581	0.4145	0.4046	0.0878	.. .
			0.0743					
Angle(TimeBodyAccelerometerMean,Gravity)	Mean gravity	num	-	0.0535	-	-	0.1233	.. .
			0.1128		0.1186	0.0368		
Angle(TimeBodyAccelerometerJerkMean),Gravity Mean)	Angle	num	0.0304	-	0.1779	-	0.1225	.. .
				0.0074		0.0128	4	
				3		9		
Angle(TimeBodyGyroscopeMean,GravityMean)	Angle	num	-0.465	-0.733	0.101	0.64	0.694	.. .
Angle(TimeBodyGyroscopeJerkMean,GravityMean)	Angle	num	-	0.7035	0.8085	-	-0.616	.. .
			0.0184			0.4854		

Variable	Description	Class	Values					
Angle(X,GravityMean)	Angle	num	-0.841	-0.845	-0.849	-0.849	-0.848	.. .
Angle(Y,GravityMean)	Angle	num	0.18	0.18	0.181	0.182	0.185	.. .
Angle(Z,GravityMean)	Angle	num	-	-	-	-	-	.. .
TimeBodyAccelerometerMean()-X.1	Mean - X.1	num	0.289	0.278	0.28	0.279	0.277	.. .
TimeBodyAccelerometerMean()-Y.1	Mean - Y.1	num	-	-	-	-	-	.. .
TimeBodyAccelerometerMean()-Z.1	Mean - Z.1	num	-0.133	-0.124	-0.113	-0.123	-0.115	.. .
TimeGravityAccelerometerMean()-X.1	Mean - X.1	num	0.963	0.967	0.967	0.968	0.968	.. .
TimeGravityAccelerometerMean()-Y.1	Mean - Y.1	num	-0.141	-0.142	-0.142	-0.144	-0.149	.. .
TimeGravityAccelerometerMean()-Z.1	Mean - Z.1	num	0.1154	0.1094	0.1019	0.0999	0.0945	.. .
TimeBodyAccelerometerJerkMean()-X.1	Mean - X.1	num	0.078	0.074	0.0736	0.0773	0.0734	.. .

Variable	Description	Class	Values					
TimeBodyAccelerometerJerkMean()-Y.1	Mean - Y.1	num	0.005	0.0057	0.0031	0.0200	0.0191	..
				7		6	2	.
TimeBodyAccelerometerJerkMean()-Z.1	Mean - Z.1	num	-	0.0293	-	-	0.0167	..
			0.0678	8	0.0090	0.0098	8	.
			3		5	6		
TimeBodyGyroscopeMean()-X.1	Mean - X.1	num	-	-	-	-	-0.034	..
			0.0061	0.0161	0.0317	0.0434		.
TimeBodyGyroscopeMean()-Y.1	Mean - Y.1	num	-	-	-	-	-	..
			0.0314	0.0839	0.1023	0.0914	0.0747	.
TimeBodyGyroscopeMean()-Z.1	Mean - Z.1	num	0.1077	0.1006	0.0961	0.0855	0.0774	..
								.
TimeBodyGyroscopeJerkMean()-X.1	Mean Jerk X-1	num	-	-	-	-	-	..
			0.0992	0.1105	0.1085	0.0912	0.0908	.
Subject	An identifier of the subject who carried out the experiment	Factor w/ 30 levels "1","2","3","4",...: 1 2 3 4 5 6 7 8 9 10 ...						
Activity	Labels of activity	Factor w/ 6 levels "LAYING","SITTING",...:						

Additional vectors

They are obtained by averaging the signals in a signal window sample. These are used on the angle() variable:

gravityMean

timeBodyAccMean

timeBodyAccJerkMean

timeBodyGyroMean

timeBodyGyroJerkMean