C:\Users\whitn\Anaconda2\envs\ml4qs2\python.exe C:/Users/whitn/OneDrive/Documenten/Groupwork\_TommyErik/ML4QS/ML4QS-master/PythonCode/crowdsignals\_ch7\_classification\_gym\_WALKINGRUNNINGblockprediction.py

C:/Users/whitn/OneDrive/Documenten/Groupwork\_TommyErik/ML4QS/ML4QS-master/PythonCode/crowdsignals\_ch7\_classification\_gym\_WALKINGRUNNINGblockprediction.py:45: FutureWarning: to\_datetime is deprecated. Use pd.to\_datetime(...)

dataset.index = dataset.index.to\_datetime()

1970-01-01 00:15:42.300 labelDL

1970-01-01 00:15:45.000 labelDL

1970-01-01 00:15:47.700 labelDL

1970-01-01 00:15:50.400 labelDL

1970-01-01 00:15:53.100 labelDL

1970-01-01 00:15:55.800 labelDL

1970-01-01 00:15:58.500 labelDL

1970-01-01 00:16:01.200 labelDL

1970-01-01 00:16:03.900 labelDL

1970-01-01 00:16:06.600 labelDL

1970-01-01 00:16:09.300 labelDL

1970-01-01 00:16:12.000 labelDL

1970-01-01 00:16:14.700 labelDL

1970-01-01 00:16:17.400 labelDL

1970-01-01 00:16:20.100 labelDL

1970-01-01 00:19:39.900 labelDL

1970-01-01 00:19:42.600 labelDL

1970-01-01 00:19:45.300 labelDL

1970-01-01 00:19:48.000 labelDL

1970-01-01 00:19:50.700 labelDL

1970-01-01 00:19:53.400 labelDL

1970-01-01 00:19:56.100 labelDL

1970-01-01 00:19:58.800 labelDL

1970-01-01 00:20:01.500 labelDL

1970-01-01 00:20:04.200 labelDL

Name: class, dtype: object

1970-01-01 00:38:06.900 labelDL

1970-01-01 00:38:09.600 labelDL

1970-01-01 00:38:12.300 labelDL

1970-01-01 00:38:15.000 labelDL

1970-01-01 00:38:17.700 labelDL

1970-01-01 00:38:20.400 labelDL

1970-01-01 00:38:23.100 labelDL

1970-01-01 00:38:25.800 labelDL

1970-01-01 00:38:28.500 labelDL

1970-01-01 00:41:51.000 labelDL

1970-01-01 00:41:53.700 labelDL

1970-01-01 00:41:56.400 labelDL

1970-01-01 00:41:59.100 labelDL

1970-01-01 00:42:01.800 labelDL

1970-01-01 00:42:04.500 labelDL

1970-01-01 00:42:07.200 labelDL

1970-01-01 00:42:09.900 labelDL

1970-01-01 00:42:12.600 labelDL

1970-01-01 00:42:15.300 labelDL

1970-01-01 00:42:18.000 labelDL

Name: class, dtype: object

1970-01-01 00:46:42.600 labeldbpress

1970-01-01 00:46:45.300 labeldbpress

1970-01-01 00:46:48.000 labeldbpress

1970-01-01 00:46:50.700 labeldbpress

1970-01-01 00:46:53.400 labeldbpress

1970-01-01 00:46:56.100 labeldbpress

1970-01-01 00:46:58.800 labeldbpress

1970-01-01 00:47:01.500 labeldbpress

1970-01-01 00:47:04.200 labeldbpress

1970-01-01 00:47:06.900 labeldbpress

1970-01-01 00:47:09.600 labeldbpress

1970-01-01 00:47:12.300 labeldbpress

1970-01-01 00:49:11.100 labeldbpress

1970-01-01 00:49:13.800 labeldbpress

1970-01-01 00:49:16.500 labeldbpress

1970-01-01 00:49:19.200 labeldbpress

1970-01-01 00:49:21.900 labeldbpress

1970-01-01 00:49:24.600 labeldbpress

1970-01-01 00:49:27.300 labeldbpress

1970-01-01 00:49:30.000 labeldbpress

1970-01-01 00:49:32.700 labeldbpress

1970-01-01 00:49:35.400 labeldbpress

1970-01-01 00:49:38.100 labeldbpress

Name: class, dtype: object

1970-01-01 00:52:12.000 labeldbpress

1970-01-01 00:52:14.700 labeldbpress

1970-01-01 00:52:17.400 labeldbpress

1970-01-01 00:52:20.100 labeldbpress

1970-01-01 00:52:22.800 labeldbpress

1970-01-01 00:52:25.500 labeldbpress

1970-01-01 00:52:28.200 labeldbpress

1970-01-01 00:52:30.900 labeldbpress

1970-01-01 00:52:33.600 labeldbpress

1970-01-01 00:52:36.300 labeldbpress

1970-01-01 00:52:39.000 labeldbpress

1970-01-01 00:52:41.700 labeldbpress

1970-01-01 00:52:44.400 labeldbpress

1970-01-01 00:54:56.700 labeldbpress

1970-01-01 00:54:59.400 labeldbpress

1970-01-01 00:55:02.100 labeldbpress

1970-01-01 00:55:04.800 labeldbpress

1970-01-01 00:55:07.500 labeldbpress

1970-01-01 00:55:10.200 labeldbpress

1970-01-01 00:55:12.900 labeldbpress

1970-01-01 00:55:15.600 labeldbpress

1970-01-01 00:55:18.300 labeldbpress

1970-01-01 00:55:21.000 labeldbpress

1970-01-01 00:55:23.700 labeldbpress

1970-01-01 00:55:26.400 labeldbpress

Name: class, dtype: object

Training set length is: 265

Test set length is: 261

#basic features: 9

#PCA features: 4

#time features: 26

#frequency features: 189

#cluster features: 3

0

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[0.94716981132075473, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0]

['mag\_phone\_x\_freq\_0.0\_Hz\_ws\_33', 'mag\_phone\_x\_temp\_mean\_ws\_100', 'acc\_phone\_z\_freq\_0.808080808081\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_0.707070707071\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33', 'acc\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33', 'mag\_phone\_y\_max\_freq', 'gyr\_phone\_z\_freq\_0.909090909091\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_0.10101010101\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33', 'gyr\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33', 'mag\_phone\_z\_freq\_weighted', 'mag\_phone\_z\_pse', 'mag\_phone\_z\_freq\_1.71717172\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_0.606060606061\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33', 'acc\_phone\_x\_freq\_1.0101010101\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.40404040404\_Hz\_ws\_33', 'mag\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_1.41414141414\_Hz\_ws\_33', 'gyr\_phone\_x\_max\_freq', 'gyr\_phone\_x\_freq\_1.41414141414\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33', 'acc\_phone\_y\_freq\_0.808080808081\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_0.0\_Hz\_ws\_33', 'acc\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_1.51515151515\_Hz\_ws\_33', 'mag\_phone\_x\_freq\_1.31313131313\_Hz\_ws\_33', 'acc\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33', 'mag\_phone\_x\_max\_freq', 'gyr\_phone\_y\_freq\_1.31313131313\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_1.71717172\_Hz\_ws\_33', 'gyr\_phone\_x', 'acc\_phone\_x\_max\_freq', 'gyr\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33', 'gyr\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33', 'gyr\_phone\_z\_pse', 'gyr\_phone\_y\_max\_freq', 'acc\_phone\_z\_freq\_1.0101010101\_Hz\_ws\_33', 'mag\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33', 'gyr\_phone\_x\_pse', 'gyr\_phone\_z\_freq\_0.707070707071\_Hz\_ws\_33', 'mag\_phone\_x\_freq\_1.61616161616\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.20202020202\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_0.20202020202\_Hz\_ws\_33', 'acc\_phone\_x\_freq\_1.71717172\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_0.808080808081\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_1.21212121212\_Hz\_ws\_33', 'mag\_phone\_z\_freq\_1.11111111111\_Hz\_ws\_33']

These are the selected features ['mag\_phone\_x\_freq\_0.0\_Hz\_ws\_33', 'mag\_phone\_x\_temp\_mean\_ws\_100', 'acc\_phone\_z\_freq\_0.808080808081\_Hz\_ws\_33', 'gyr\_phone\_y\_freq\_0.707070707071\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33', 'acc\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33', 'mag\_phone\_y\_max\_freq', 'gyr\_phone\_z\_freq\_0.909090909091\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_0.10101010101\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33', 'gyr\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33', 'mag\_phone\_z\_freq\_weighted', 'mag\_phone\_z\_pse', 'mag\_phone\_z\_freq\_1.71717172\_Hz\_ws\_33', 'mag\_phone\_y\_freq\_0.606060606061\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33', 'acc\_phone\_x\_freq\_1.0101010101\_Hz\_ws\_33', 'acc\_phone\_z\_freq\_0.40404040404\_Hz\_ws\_33', 'mag\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33']

C:\Users\whitn\Anaconda2\envs\ml4qs2\lib\site-packages\sklearn\neural\_network\multilayer\_perceptron.py:563: ConvergenceWarning: Stochastic Optimizer: Maximum iterations reached and the optimization hasn't converged yet.

% (), ConvergenceWarning)

initial set & 0.9540 \emph{( 0.9282 - 0.9797 )} & 0.7218 \emph{( 0.6664 - 0.7773 )} & 0.9962 \emph{( 0.9887 - 1.0038 )} & 0.7732 \emph{( 0.7213 - 0.8250 )} & 0.9811 \emph{( 0.9644 - 0.9978 )} & 0.7739 \emph{( 0.7222 - 0.8257 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7893 \emph{( 0.7388 - 0.8398 )} & 0.9887 \emph{( 0.9757 - 1.0017 )} & 0.7586 \emph{( 0.7056 - 0.8116 )} & 0.9358 \emph{( 0.9057 - 0.9660 )} & 0.7280 \emph{( 0.6729 - 0.7831 )} \\\hline

Chapter 3 & 0.9426 \emph{( 0.9141 - 0.9712 )} & 0.7119 \emph{( 0.6558 - 0.7679 )} & 0.9917 \emph{( 0.9806 - 1.0028 )} & 0.7709 \emph{( 0.7189 - 0.8229 )} & 0.9811 \emph{( 0.9644 - 0.9978 )} & 0.7739 \emph{( 0.7222 - 0.8257 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7893 \emph{( 0.7388 - 0.8398 )} & 0.9849 \emph{( 0.9699 - 0.9999 )} & 0.6475 \emph{( 0.5884 - 0.7067 )} & 0.9208 \emph{( 0.8876 - 0.9539 )} & 0.7165 \emph{( 0.6607 - 0.7723 )} \\\hline

Chapter 4 & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7693 \emph{( 0.7172 - 0.8215 )} & 0.9970 \emph{( 0.9902 - 1.0037 )} & 0.9134 \emph{( 0.8786 - 0.9482 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7969 \emph{( 0.7471 - 0.8467 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.8966 \emph{( 0.8589 - 0.9343 )} & 0.9887 \emph{( 0.9757 - 1.0017 )} & 0.8812 \emph{( 0.8412 - 0.9213 )} & 0.9925 \emph{( 0.9818 - 1.0031 )} & 0.8008 \emph{( 0.7513 - 0.8502 )} \\\hline

Chapter 5 & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7732 \emph{( 0.7213 - 0.8250 )} & 0.9962 \emph{( 0.9887 - 1.0038 )} & 0.9203 \emph{( 0.8868 - 0.9538 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7969 \emph{( 0.7471 - 0.8467 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.8966 \emph{( 0.8589 - 0.9343 )} & 0.9887 \emph{( 0.9757 - 1.0017 )} & 0.8161 \emph{( 0.7681 - 0.8641 )} & 0.9925 \emph{( 0.9818 - 1.0031 )} & 0.8123 \emph{( 0.7639 - 0.8606 )} \\\hline

Selected features & 0.9970 \emph{( 0.9902 - 1.0037 )} & 0.6812 \emph{( 0.6235 - 0.7389 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.8146 \emph{( 0.7664 - 0.8627 )} & 0.9887 \emph{( 0.9757 - 1.0017 )} & 0.7433 \emph{( 0.6892 - 0.7974 )} & 1.0000 \emph{( 1.0000 - 1.0000 )} & 0.7165 \emph{( 0.6607 - 0.7723 )} & 0.9925 \emph{( 0.9818 - 1.0031 )} & 0.6897 \emph{( 0.6324 - 0.7469 )} & 0.9811 \emph{( 0.9644 - 0.9978 )} & 0.8008 \emph{( 0.7513 - 0.8502 )} \\\hline

{'criterion': 'entropy', 'min\_samples\_leaf': 2}

Feature importance decision tree:

mag\_phone\_x\_freq\_0.0\_Hz\_ws\_33 & 0.668902748146

mag\_phone\_x\_temp\_mean\_ws\_100 & 0.304247504303

mag\_phone\_x\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0142454480628

mag\_phone\_z\_pse & 0.0126042994888

acc\_phone\_z\_freq\_0.808080808081\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_0.707070707071\_Hz\_ws\_33 & 0.0

acc\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33 & 0.0

acc\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33 & 0.0

mag\_phone\_y\_max\_freq & 0.0

gyr\_phone\_z\_freq\_0.909090909091\_Hz\_ws\_33 & 0.0

mag\_phone\_y\_freq\_0.10101010101\_Hz\_ws\_33 & 0.0

mag\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0

gyr\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33 & 0.0

acc\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0

mag\_phone\_z\_freq\_weighted & 0.0

mag\_phone\_z\_freq\_1.71717172\_Hz\_ws\_33 & 0.0

mag\_phone\_y\_freq\_0.606060606061\_Hz\_ws\_33 & 0.0

acc\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33 & 0.0

acc\_phone\_x\_freq\_1.0101010101\_Hz\_ws\_33 & 0.0

acc\_phone\_z\_freq\_0.40404040404\_Hz\_ws\_33 & 0.0

mag\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0

gyr\_phone\_x\_max\_freq & 0.0

gyr\_phone\_x\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33 & 0.0

acc\_phone\_y\_freq\_0.808080808081\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_0.0\_Hz\_ws\_33 & 0.0

acc\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_1.51515151515\_Hz\_ws\_33 & 0.0

mag\_phone\_x\_freq\_1.31313131313\_Hz\_ws\_33 & 0.0

acc\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33 & 0.0

mag\_phone\_x\_max\_freq & 0.0

gyr\_phone\_y\_freq\_1.31313131313\_Hz\_ws\_33 & 0.0

mag\_phone\_y\_freq\_1.71717172\_Hz\_ws\_33 & 0.0

gyr\_phone\_x & 0.0

acc\_phone\_x\_max\_freq & 0.0

gyr\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0

gyr\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0

gyr\_phone\_z\_pse & 0.0

gyr\_phone\_y\_max\_freq & 0.0

acc\_phone\_z\_freq\_1.0101010101\_Hz\_ws\_33 & 0.0

mag\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33 & 0.0

gyr\_phone\_x\_pse & 0.0

gyr\_phone\_z\_freq\_0.707070707071\_Hz\_ws\_33 & 0.0

acc\_phone\_z\_freq\_0.20202020202\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_0.20202020202\_Hz\_ws\_33 & 0.0

acc\_phone\_x\_freq\_1.71717172\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_0.808080808081\_Hz\_ws\_33 & 0.0

gyr\_phone\_y\_freq\_1.21212121212\_Hz\_ws\_33 & 0.0

mag\_phone\_z\_freq\_1.11111111111\_Hz\_ws\_33 & 0.0

{'n\_estimators': 100, 'criterion': 'gini', 'min\_samples\_leaf': 2}

Feature importance random forest:

mag\_phone\_x\_freq\_0.0\_Hz\_ws\_33 & 0.182740789418

mag\_phone\_x\_temp\_mean\_ws\_100 & 0.16003987454

mag\_phone\_z\_pse & 0.0931726221548

mag\_phone\_y\_max\_freq & 0.0730320535667

acc\_phone\_x\_max\_freq & 0.0543169330764

mag\_phone\_x\_max\_freq & 0.0340387941847

mag\_phone\_x\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0271759495076

gyr\_phone\_y\_freq\_0.808080808081\_Hz\_ws\_33 & 0.0266669558367

mag\_phone\_z\_freq\_1.11111111111\_Hz\_ws\_33 & 0.0210296491251

gyr\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0198962910772

gyr\_phone\_z\_pse & 0.0184799481336

mag\_phone\_y\_freq\_0.606060606061\_Hz\_ws\_33 & 0.0177690028577

mag\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0148676332946

mag\_phone\_y\_freq\_1.71717172\_Hz\_ws\_33 & 0.0145289522438

gyr\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33 & 0.0139896174107

gyr\_phone\_y\_freq\_0.707070707071\_Hz\_ws\_33 & 0.0131745921275

gyr\_phone\_y\_freq\_0.0\_Hz\_ws\_33 & 0.012801948184

gyr\_phone\_y\_freq\_1.51515151515\_Hz\_ws\_33 & 0.0126957543332

mag\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33 & 0.0115351747522

acc\_phone\_x\_freq\_1.0101010101\_Hz\_ws\_33 & 0.0113400533805

acc\_phone\_z\_freq\_0.20202020202\_Hz\_ws\_33 & 0.0102722858775

mag\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33 & 0.00921075218268

mag\_phone\_z\_freq\_1.71717172\_Hz\_ws\_33 & 0.00871324083785

acc\_phone\_z\_freq\_0.808080808081\_Hz\_ws\_33 & 0.00863102094258

mag\_phone\_x\_freq\_1.31313131313\_Hz\_ws\_33 & 0.00855664093597

gyr\_phone\_z\_freq\_0.909090909091\_Hz\_ws\_33 & 0.00855038808025

gyr\_phone\_z\_freq\_0.707070707071\_Hz\_ws\_33 & 0.00809752951035

mag\_phone\_z\_freq\_weighted & 0.00750961427555

acc\_phone\_y\_freq\_0.808080808081\_Hz\_ws\_33 & 0.00739108469993

acc\_phone\_z\_freq\_0.40404040404\_Hz\_ws\_33 & 0.00720751077175

gyr\_phone\_x & 0.00696476103353

gyr\_phone\_y\_freq\_1.21212121212\_Hz\_ws\_33 & 0.00692907043429

gyr\_phone\_x\_max\_freq & 0.00637410288401

acc\_phone\_x\_freq\_1.71717172\_Hz\_ws\_33 & 0.00624592060434

gyr\_phone\_x\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0053898984977

acc\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33 & 0.00527571645768

gyr\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33 & 0.00516030355484

gyr\_phone\_z\_freq\_0.30303030303\_Hz\_ws\_33 & 0.00447669932604

acc\_phone\_z\_freq\_1.0101010101\_Hz\_ws\_33 & 0.00397169645382

acc\_phone\_z\_freq\_0.10101010101\_Hz\_ws\_33 & 0.00390360853774

gyr\_phone\_y\_max\_freq & 0.00362723687382

acc\_phone\_y\_freq\_1.61616161616\_Hz\_ws\_33 & 0.0035318284011

gyr\_phone\_y\_freq\_1.41414141414\_Hz\_ws\_33 & 0.0032510763994

gyr\_phone\_y\_freq\_0.20202020202\_Hz\_ws\_33 & 0.00299681830907

acc\_phone\_y\_freq\_0.909090909091\_Hz\_ws\_33 & 0.00296489001749

acc\_phone\_x\_freq\_0.20202020202\_Hz\_ws\_33 & 0.00256069432889

mag\_phone\_y\_freq\_0.10101010101\_Hz\_ws\_33 & 0.00253092100517

gyr\_phone\_y\_freq\_1.31313131313\_Hz\_ws\_33 & 0.00240376985563

gyr\_phone\_x\_pse & 0.00239091624621

acc\_phone\_z\_freq\_1.41414141414\_Hz\_ws\_33 & 0.00161741346026