C:\Users\whitn\Anaconda2\envs\ml4qs2\python.exe C:/Users/whitn/OneDrive/Documenten/Groupwork\_TommyErik/ML4QS/ML4QS-master/PythonCode/crowdsignals\_ch8\_regression.py

Training set length is: 1401

Test set length is: 736

Training set length is: 1401

Test set length is: 736

#basic features: 28

#PCA features: 7

#time features: 71

#frequency features: 432

#cluster features: 1

(-3.275556760587004, 0.016007075461294373, 1L, 2893L, {'5%': -2.8625395742539688, '1%': -3.4326123960498429, '10%': -2.5673021019579663}, 13996.789178009014)

---- 0

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 1

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 250]

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---- 2

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 3

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

-------

[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 250]

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---- 4

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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[0, 0, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(0,0,0)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:29:56.406222 Log Likelihood: -4245.8357

End Date: 2016-02-08 19:14:48.656222 AIC: 8551.67149507

Number of observations: 980 BIC: 8698.29807222

==========================================================================================================

Latent Variable Estimate

======================================== ==========

Beta 1 -0.0008

Beta acc\_phone\_x -0.312

Beta acc\_phone\_y -0.2336

Beta acc\_phone\_z 2.6296

Beta acc\_watch\_x 1.1579

Beta acc\_watch\_y 2.2357

Beta acc\_watch\_z 0.5646

Beta gyr\_phone\_x 0.117

Beta gyr\_phone\_y -0.0457

Beta gyr\_phone\_z -0.0587

Beta gyr\_watch\_x -0.0073

Beta gyr\_watch\_y -0.1846

Beta gyr\_watch\_z 0.0168

Beta labelOnTable 0.8832

Beta labelSitting -0.1955

Beta labelWashingHands 0.1133

Beta labelWalking -1.7553

Beta labelStanding 0.4503

Beta labelDriving -0.0692

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux -0.0027

Beta mag\_phone\_x 0.0042

Beta mag\_phone\_y -0.1592

Beta mag\_phone\_z -0.037

Beta mag\_watch\_x -0.0913

Beta mag\_watch\_y -0.112

Beta mag\_watch\_z -0.0858

Beta press\_phone\_pressure 0.1015

Normal Scale 18.3994

==========================================================================================================

[0, 5, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(0,0,5)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -3042.7699

End Date: 2016-02-08 19:14:48.656222 AIC: 6155.53985767

Number of observations: 975 BIC: 6326.42516916

==========================================================================================================

Latent Variable Estimate

======================================== ==========

MA(1) 1.4645

MA(2) 1.631

MA(3) 1.4759

MA(4) 1.058

MA(5) 0.4999

Beta 1 0.0002

Beta acc\_phone\_x -0.3115

Beta acc\_phone\_y -0.502

Beta acc\_phone\_z 0.3879

Beta acc\_watch\_x 0.3895

Beta acc\_watch\_y 0.3678

Beta acc\_watch\_z -0.177

Beta gyr\_phone\_x 0.1022

Beta gyr\_phone\_y 0.276

Beta gyr\_phone\_z -0.2478

Beta gyr\_watch\_x 0.605

Beta gyr\_watch\_y 0.3373

Beta gyr\_watch\_z 0.1614

Beta labelOnTable 0.5271

Beta labelSitting -0.3113

Beta labelWashingHands 0.0287

Beta labelWalking -0.1117

Beta labelStanding -0.1002

Beta labelDriving -0.0259

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux -0.0005

Beta mag\_phone\_x 0.0063

Beta mag\_phone\_y -0.2139

Beta mag\_phone\_z -0.0068

Beta mag\_watch\_x 0.0376

Beta mag\_watch\_y 0.0161

Beta mag\_watch\_z -0.0506

Beta press\_phone\_pressure 0.1025

Normal Scale 5.5126

==========================================================================================================

[5, 0, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(5,0,0)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -2402.3329

End Date: 2016-02-08 19:14:48.656222 AIC: 4874.66585053

Number of observations: 975 BIC: 5045.55116202

==========================================================================================================

Latent Variable Estimate

======================================== ==========

AR(1) 1.255

AR(2) -0.1835

AR(3) -0.0613

AR(4) 0.0026

AR(5) -0.0223

Beta 1 0.0

Beta acc\_phone\_x 0.0739

Beta acc\_phone\_y -0.07

Beta acc\_phone\_z 0.0336

Beta acc\_watch\_x -0.013

Beta acc\_watch\_y 0.0236

Beta acc\_watch\_z 0.0078

Beta gyr\_phone\_x 0.008

Beta gyr\_phone\_y 0.0093

Beta gyr\_phone\_z -0.0104

Beta gyr\_watch\_x -0.0091

Beta gyr\_watch\_y -0.0033

Beta gyr\_watch\_z 0.0112

Beta labelOnTable 0.0215

Beta labelSitting -0.0119

Beta labelWashingHands 0.0024

Beta labelWalking -0.0225

Beta labelStanding -0.0179

Beta labelDriving -0.0027

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux 0.0

Beta mag\_phone\_x 0.0025

Beta mag\_phone\_y -0.0024

Beta mag\_phone\_z -0.0015

Beta mag\_watch\_x 0.004

Beta mag\_watch\_y 0.0034

Beta mag\_watch\_z -0.0021

Beta press\_phone\_pressure 0.0005

Normal Scale 2.8618

==========================================================================================================

[5, 5, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(5,0,5)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -2399.0659

End Date: 2016-02-08 19:14:48.656222 AIC: 4878.13177148

Number of observations: 975 BIC: 5073.42927032

==========================================================================================================

Latent Variable Estimate

======================================== ==========

AR(1) 0.8616

AR(2) 0.0718

AR(3) -0.0658

AR(4) -0.0486

AR(5) 0.1571

MA(1) 0.4393

MA(2) 0.2292

MA(3) 0.2529

MA(4) 0.3088

MA(5) 0.1179

Beta 1 0.0001

Beta acc\_phone\_x 0.3028

Beta acc\_phone\_y -0.1286

Beta acc\_phone\_z 0.0829

Beta acc\_watch\_x 0.0155

Beta acc\_watch\_y -0.005

Beta acc\_watch\_z -0.027

Beta gyr\_phone\_x 0.0868

Beta gyr\_phone\_y 0.056

Beta gyr\_phone\_z -0.0367

Beta gyr\_watch\_x -0.012

Beta gyr\_watch\_y 0.0659

Beta gyr\_watch\_z 0.0664

Beta labelOnTable 0.0532

Beta labelSitting -0.0138

Beta labelWashingHands 0.0189

Beta labelWalking -0.0263

Beta labelStanding -0.0378

Beta labelDriving -0.0111

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux 0.0001

Beta mag\_phone\_x 0.0113

Beta mag\_phone\_y -0.0018

Beta mag\_phone\_z -0.0019

Beta mag\_watch\_x 0.0128

Beta mag\_watch\_y 0.0057

Beta mag\_watch\_z -0.0067

Beta press\_phone\_pressure 0.0011

Normal Scale 2.8518

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[0, 5, 1]

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Hessian not invertible! Consider a different model specification.

Normal ARIMAX(0,0,5)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -4452.5829

End Date: 2016-02-08 19:34:06.406222 AIC: 8975.16577691

Number of observations: 1396 BIC: 9158.61359683

==========================================================================================================

Latent Variable Estimate

======================================== ==========

MA(1) 1.8298

MA(2) 2.2413

MA(3) 2.0057

MA(4) 1.2701

MA(5) 0.4707

Beta 1 0.0004

Beta acc\_phone\_x -0.2362

Beta acc\_phone\_y -0.3269

Beta acc\_phone\_z 0.2352

Beta acc\_watch\_x 0.1289

Beta acc\_watch\_y 0.0562

Beta acc\_watch\_z -0.0141

Beta gyr\_phone\_x 0.036

Beta gyr\_phone\_y -0.0636

Beta gyr\_phone\_z -0.078

Beta gyr\_watch\_x 0.0294

Beta gyr\_watch\_y 0.0577

Beta gyr\_watch\_z -0.0029

Beta labelOnTable 0.1736

Beta labelSitting -0.073

Beta labelWashingHands 0.0011

Beta labelWalking -0.0528

Beta labelStanding -0.0304

Beta labelDriving -0.0501

Beta labelEating 0.0247

Beta labelRunning 0.0

Beta light\_phone\_lux -0.0003

Beta mag\_phone\_x -0.0254

Beta mag\_phone\_y -0.1343

Beta mag\_phone\_z -0.003

Beta mag\_watch\_x -0.0036

Beta mag\_watch\_y 0.0123

Beta mag\_watch\_z -0.0095

Beta press\_phone\_pressure 0.1165

Normal Scale 5.8152

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[(2938.9738825734921, 3564.4230309371692, 4827.8108803637506, 4548.0089456881487), (4063.5842022748047, 4661.6371157723233, 2194.0022750201847, 2475.6869645976612), (1546.3235848224542, 1201.4205692817407, 1357.9622792283553, 972.37227141972426)]

initial set & 2938.9739 \emph{( 3564.4230 )} & 4827.8109 \emph{( 4548.0089 )} & 4063.5842 \emph{( 4661.6371 )} & 2194.0023 \emph{( 2475.6870 )} & 1546.3236 \emph{( 1201.4206 )} & 1357.9623 \emph{( 972.3723 )} \\\hline

---- 0

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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---- 1

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 500]

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---- 2

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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---- 3

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 500]

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---- 4

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 250]

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[(3230.6803606456824, 3828.7889385675844, 5042.4410449682891, 4660.6748895780183), (4220.3079781910474, 4741.7166414290941, 2699.1612564799407, 3130.752419502172), (0, 0, 0, 0)]

Chapter 3 & 3230.6804 \emph{( 3828.7889 )} & 5042.4410 \emph{( 4660.6749 )} & 4220.3080 \emph{( 4741.7166 )} & 2699.1613 \emph{( 3130.7524 )} & 0.0000 \emph{( 0.0000 )} & 0.0000 \emph{( 0.0000 )} \\\hline

---- 0

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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---- 1

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 500]

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---- 2

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 3

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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---- 4

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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[(2700.7304366127823, 3295.5948888584244, 5166.2432388133111, 4789.8636885843734), (5398.3796716790212, 4843.5567564390203, 3731.9204363553204, 3782.0538657618026), (0, 0, 0, 0)]

Chapter 4 & 2700.7304 \emph{( 3295.5949 )} & 5166.2432 \emph{( 4789.8637 )} & 5398.3797 \emph{( 4843.5568 )} & 3731.9204 \emph{( 3782.0539 )} & 0.0000 \emph{( 0.0000 )} & 0.0000 \emph{( 0.0000 )} \\\hline

---- 0

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 500]

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---- 1

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 500]

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---- 2

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 3

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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---- 4

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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[(3238.6647502294691, 3772.8699295247307, 5508.1398989301615, 4947.0081240969248), (5442.9950689009629, 4879.3609453820409, 3921.8482477797907, 3967.3554841198102), (0, 0, 0, 0)]

Chapter 5 & 3238.6648 \emph{( 3772.8699 )} & 5508.1399 \emph{( 4947.0081 )} & 5442.9951 \emph{( 4879.3609 )} & 3921.8482 \emph{( 3967.3555 )} & 0.0000 \emph{( 0.0000 )} & 0.0000 \emph{( 0.0000 )} \\\hline

---- 0

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 500]

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---- 1

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 2

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.8, 700]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 3

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[50, True, 250]

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---- 4

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

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[100, True, 250]

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[(3262.3718455590692, 3795.8828096988873, 4741.4056295245373, 4530.7696406040995), (3322.8984400481213, 4201.3408286607355, 3245.2940397462426, 3711.321168014566), (0, 0, 0, 0)]

Selected features & 3262.3718 \emph{( 3795.8828 )} & 4741.4056 \emph{( 4530.7696 )} & 3322.8984 \emph{( 4201.3408 )} & 3245.2940 \emph{( 3711.3212 )} & 0.0000 \emph{( 0.0000 )} & 0.0000 \emph{( 0.0000 )} \\\hline

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

[0.8, 700]

[0.8, 1000]

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[0.6, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

[100, True, 500]

-------

[50, True, 500]

-------

[0, 0, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(0,0,0)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:29:56.406222 Log Likelihood: -4245.8357

End Date: 2016-02-08 19:14:48.656222 AIC: 8551.67149507

Number of observations: 980 BIC: 8698.29807222

==========================================================================================================

Latent Variable Estimate

======================================== ==========

Beta 1 -0.0008

Beta acc\_phone\_x -0.312

Beta acc\_phone\_y -0.2336

Beta acc\_phone\_z 2.6296

Beta acc\_watch\_x 1.1579

Beta acc\_watch\_y 2.2357

Beta acc\_watch\_z 0.5646

Beta gyr\_phone\_x 0.117

Beta gyr\_phone\_y -0.0457

Beta gyr\_phone\_z -0.0587

Beta gyr\_watch\_x -0.0073

Beta gyr\_watch\_y -0.1846

Beta gyr\_watch\_z 0.0168

Beta labelOnTable 0.8832

Beta labelSitting -0.1955

Beta labelWashingHands 0.1133

Beta labelWalking -1.7553

Beta labelStanding 0.4503

Beta labelDriving -0.0692

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux -0.0027

Beta mag\_phone\_x 0.0042

Beta mag\_phone\_y -0.1592

Beta mag\_phone\_z -0.037

Beta mag\_watch\_x -0.0913

Beta mag\_watch\_y -0.112

Beta mag\_watch\_z -0.0858

Beta press\_phone\_pressure 0.1015

Normal Scale 18.3994

==========================================================================================================

[0, 5, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(0,0,5)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -3042.7699

End Date: 2016-02-08 19:14:48.656222 AIC: 6155.53985767

Number of observations: 975 BIC: 6326.42516916

==========================================================================================================

Latent Variable Estimate

======================================== ==========

MA(1) 1.4645

MA(2) 1.631

MA(3) 1.4759

MA(4) 1.058

MA(5) 0.4999

Beta 1 0.0002

Beta acc\_phone\_x -0.3115

Beta acc\_phone\_y -0.502

Beta acc\_phone\_z 0.3879

Beta acc\_watch\_x 0.3895

Beta acc\_watch\_y 0.3678

Beta acc\_watch\_z -0.177

Beta gyr\_phone\_x 0.1022

Beta gyr\_phone\_y 0.276

Beta gyr\_phone\_z -0.2478

Beta gyr\_watch\_x 0.605

Beta gyr\_watch\_y 0.3373

Beta gyr\_watch\_z 0.1614

Beta labelOnTable 0.5271

Beta labelSitting -0.3113

Beta labelWashingHands 0.0287

Beta labelWalking -0.1117

Beta labelStanding -0.1002

Beta labelDriving -0.0259

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux -0.0005

Beta mag\_phone\_x 0.0063

Beta mag\_phone\_y -0.2139

Beta mag\_phone\_z -0.0068

Beta mag\_watch\_x 0.0376

Beta mag\_watch\_y 0.0161

Beta mag\_watch\_z -0.0506

Beta press\_phone\_pressure 0.1025

Normal Scale 5.5126

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[5, 0, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(5,0,0)

======================================================= ==================================================

Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -2402.3329

End Date: 2016-02-08 19:14:48.656222 AIC: 4874.66585053

Number of observations: 975 BIC: 5045.55116202

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Latent Variable Estimate

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AR(1) 1.255

AR(2) -0.1835

AR(3) -0.0613

AR(4) 0.0026

AR(5) -0.0223

Beta 1 0.0

Beta acc\_phone\_x 0.0739

Beta acc\_phone\_y -0.07

Beta acc\_phone\_z 0.0336

Beta acc\_watch\_x -0.013

Beta acc\_watch\_y 0.0236

Beta acc\_watch\_z 0.0078

Beta gyr\_phone\_x 0.008

Beta gyr\_phone\_y 0.0093

Beta gyr\_phone\_z -0.0104

Beta gyr\_watch\_x -0.0091

Beta gyr\_watch\_y -0.0033

Beta gyr\_watch\_z 0.0112

Beta labelOnTable 0.0215

Beta labelSitting -0.0119

Beta labelWashingHands 0.0024

Beta labelWalking -0.0225

Beta labelStanding -0.0179

Beta labelDriving -0.0027

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux 0.0

Beta mag\_phone\_x 0.0025

Beta mag\_phone\_y -0.0024

Beta mag\_phone\_z -0.0015

Beta mag\_watch\_x 0.004

Beta mag\_watch\_y 0.0034

Beta mag\_watch\_z -0.0021

Beta press\_phone\_pressure 0.0005

Normal Scale 2.8618

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[5, 5, 1]

Hessian not invertible! Consider a different model specification.

Normal ARIMAX(5,0,5)

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Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -2399.0659

End Date: 2016-02-08 19:14:48.656222 AIC: 4878.13177148

Number of observations: 975 BIC: 5073.42927032

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Latent Variable Estimate

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AR(1) 0.8616

AR(2) 0.0718

AR(3) -0.0658

AR(4) -0.0486

AR(5) 0.1571

MA(1) 0.4393

MA(2) 0.2292

MA(3) 0.2529

MA(4) 0.3088

MA(5) 0.1179

Beta 1 0.0001

Beta acc\_phone\_x 0.3028

Beta acc\_phone\_y -0.1286

Beta acc\_phone\_z 0.0829

Beta acc\_watch\_x 0.0155

Beta acc\_watch\_y -0.005

Beta acc\_watch\_z -0.027

Beta gyr\_phone\_x 0.0868

Beta gyr\_phone\_y 0.056

Beta gyr\_phone\_z -0.0367

Beta gyr\_watch\_x -0.012

Beta gyr\_watch\_y 0.0659

Beta gyr\_watch\_z 0.0664

Beta labelOnTable 0.0532

Beta labelSitting -0.0138

Beta labelWashingHands 0.0189

Beta labelWalking -0.0263

Beta labelStanding -0.0378

Beta labelDriving -0.0111

Beta labelEating 0.0

Beta labelRunning 0.0

Beta light\_phone\_lux 0.0001

Beta mag\_phone\_x 0.0113

Beta mag\_phone\_y -0.0018

Beta mag\_phone\_z -0.0019

Beta mag\_watch\_x 0.0128

Beta mag\_watch\_y 0.0057

Beta mag\_watch\_z -0.0067

Beta press\_phone\_pressure 0.0011

Normal Scale 2.8518

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[0, 5, 1]

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Hessian not invertible! Consider a different model specification.

Normal ARIMAX(0,0,5)

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Dependent Variable: hr\_watch\_rate Method: MLE

Start Date: 2016-02-08 18:30:10.156222 Log Likelihood: -4452.5829

End Date: 2016-02-08 19:34:06.406222 AIC: 8975.16577691

Number of observations: 1396 BIC: 9158.61359683

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Latent Variable Estimate

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MA(1) 1.8298

MA(2) 2.2413

MA(3) 2.0057

MA(4) 1.2701

MA(5) 0.4707

Beta 1 0.0004

Beta acc\_phone\_x -0.2362

Beta acc\_phone\_y -0.3269

Beta acc\_phone\_z 0.2352

Beta acc\_watch\_x 0.1289

Beta acc\_watch\_y 0.0562

Beta acc\_watch\_z -0.0141

Beta gyr\_phone\_x 0.036

Beta gyr\_phone\_y -0.0636

Beta gyr\_phone\_z -0.078

Beta gyr\_watch\_x 0.0294

Beta gyr\_watch\_y 0.0577

Beta gyr\_watch\_z -0.0029

Beta labelOnTable 0.1736

Beta labelSitting -0.073

Beta labelWashingHands 0.0011

Beta labelWalking -0.0528

Beta labelStanding -0.0304

Beta labelDriving -0.0501

Beta labelEating 0.0247

Beta labelRunning 0.0

Beta light\_phone\_lux -0.0003

Beta mag\_phone\_x -0.0254

Beta mag\_phone\_y -0.1343

Beta mag\_phone\_z -0.003

Beta mag\_watch\_x -0.0036

Beta mag\_watch\_y 0.0123

Beta mag\_watch\_z -0.0095

Beta press\_phone\_pressure 0.1165

Normal Scale 5.8152

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Process finished with exit code 0