C:\Users\whitn\Anaconda2\envs\ml4qs2\python.exe C:/Users/whitn/OneDrive/Documenten/Groupwork\_TommyErik/ML4QS/ML4QS-master/PythonCode/crowdsignals\_ch8\_REGRESSION\_question2\_THISSHOULDDOIT.py

Training set length is: 424

Test set length is: 230

#basic features: 8

#PCA features: 7

#time features: 300

#frequency features: 405

#cluster features: 1

These were the selected\_feautures returned by Forward Selection:

[u'pca\_2', u'pca\_7', u'pca\_1', u'mag\_phone\_y\_freq\_0.3\_Hz\_ws\_10', u'acc\_phone\_z\_temp\_std\_ws\_30', u'mag\_phone\_x\_temp\_mean\_ws\_30', u'pca\_1\_freq\_0.0\_Hz\_ws\_10', u'gyr\_phone\_z\_freq\_0.0\_Hz\_ws\_10', u'gyr\_phone\_y\_temp\_std\_ws\_30\_freq\_0.1\_Hz\_ws\_10', u'pca\_6\_temp\_mean\_ws\_30']

These were the ordered\_feautures returned by Forward Selection:

[u'pca\_2', u'pca\_7', u'pca\_1', u'mag\_phone\_y\_freq\_0.3\_Hz\_ws\_10', u'acc\_phone\_z\_temp\_std\_ws\_30', u'mag\_phone\_x\_temp\_mean\_ws\_30', u'pca\_1\_freq\_0.0\_Hz\_ws\_10', u'gyr\_phone\_z\_freq\_0.0\_Hz\_ws\_10', u'gyr\_phone\_y\_temp\_std\_ws\_30\_freq\_0.1\_Hz\_ws\_10', u'pca\_6\_temp\_mean\_ws\_30']

These were the ordered\_scores returned by Forward Selection:

[0.27282134255594903, 0.15535363191482543, 0.019521292706960368, 0.012406413925574237, 0.010635439630418866, 0.0092016967311133614, 0.0073759516523753052, 0.0065696433660712679, 0.0062080639274078578, 0.0057898380963711466]

\_\_\_\_\_\_\_\_

We will go ahead with this top 10 of features, which we define as selected\_features in the remainder of this script

**[u'pca\_2', u'pca\_7', u'pca\_1', u'mag\_phone\_y\_freq\_0.3\_Hz\_ws\_10', u'acc\_phone\_z\_temp\_std\_ws\_30', u'mag\_phone\_x\_temp\_mean\_ws\_30', u'pca\_1\_freq\_0.0\_Hz\_ws\_10', u'gyr\_phone\_z\_freq\_0.0\_Hz\_ws\_10', u'gyr\_phone\_y\_temp\_std\_ws\_30\_freq\_0.1\_Hz\_ws\_10', u'pca\_6\_temp\_mean\_ws\_30']**

(-13.931505502561807, 5.0796508380405437e-26, 8L, 644L, {'5%': -2.866038402294262, '1%': -3.440544963888275, '10%': -2.569165592859072}, 1485.5683836336102)

---- 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, 1000]

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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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---- 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, 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, 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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[0.6, 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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[0.8, 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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[0, 0, 1]

Normal ARIMAX(0,0,0)

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Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:00 Log Likelihood: -362.0103

End Date: 1970-01-01 00:04:53.525000 AIC: 744.0206

Number of observations: 296 BIC: 780.9242

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

Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

Beta 1 0.2206 0.3121 0.7068 0.4797 (-0.3911 | 0.8323)

Beta acc\_phone\_x 0.0543 0.0229 2.3776 0.0174 (0.0095 | 0.0991)

Beta acc\_phone\_y -0.0022 0.0145 -0.1505 0.8804 (-0.0305 | 0.0262)

Beta acc\_phone\_z 0.13 0.0223 5.8342 0.0 (0.0863 | 0.1737)

Beta gyr\_phone\_y 0.7703 0.068 11.3311 0.0 (0.6371 | 0.9036)

Beta gyr\_phone\_z 0.4691 0.203 2.311 0.0208 (0.0712 | 0.8669)

Beta mag\_phone\_x 0.0008 0.0041 0.192 0.8478 (-0.0072 | 0.0088)

Beta mag\_phone\_y 0.0119 0.0072 1.6627 0.0964 (-0.0021 | 0.026)

Beta mag\_phone\_z -0.012 0.004 -3.0319 0.0024 (-0.0198 | -0.0043)

Normal Scale 0.8221

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

[0, 5, 1]

Normal ARIMAX(0,0,5)

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Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -292.1866

End Date: 1970-01-01 00:04:53.525000 AIC: 614.3732

Number of observations: 291 BIC: 669.4731

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Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

MA(1) 0.3055 0.0715 4.2738 0.0 (0.1654 | 0.4456)

MA(2) -0.0288 0.0541 -0.532 0.5948 (-0.1348 | 0.0772)

MA(3) -0.4382 0.0602 -7.282 0.0 (-0.5561 | -0.3203)

MA(4) -0.5285 0.0591 -8.9374 0.0 (-0.6444 | -0.4126)

MA(5) -0.3899 0.0531 -7.3437 0.0 (-0.494 | -0.2858)

Beta 1 0.0072 0.2031 0.0356 0.9716 (-0.3909 | 0.4054)

Beta acc\_phone\_x -0.0151 0.0076 -1.9787 0.0478 (-0.0301 | -0.0001)

Beta acc\_phone\_y 0.0152 0.0105 1.4425 0.1492 (-0.0055 | 0.0358)

Beta acc\_phone\_z 0.0386 0.0201 1.9176 0.0552 (-0.0009 | 0.078)

Beta gyr\_phone\_y 0.7592 0.0533 14.2481 0.0 (0.6547 | 0.8636)

Beta gyr\_phone\_z 0.0837 0.1766 0.4738 0.6356 (-0.2625 | 0.4299)

Beta mag\_phone\_x 0.0002 0.0014 0.1722 0.8633 (-0.0025 | 0.003)

Beta mag\_phone\_y 0.0049 0.0039 1.2519 0.2106 (-0.0028 | 0.0126)

Beta mag\_phone\_z 0.0008 0.0016 0.4995 0.6174 (-0.0023 | 0.0039)

Normal Scale 0.7219

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[5, 0, 1]

Normal ARIMAX(5,0,0)

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Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -266.7467

End Date: 1970-01-01 00:04:53.525000 AIC: 563.4934

Number of observations: 291 BIC: 618.5933

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Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

AR(1) 0.3539 0.0421 8.4018 0.0 (0.2713 | 0.4364)

AR(2) 0.0863 0.0396 2.1801 0.0292 (0.0087 | 0.1639)

AR(3) -0.0763 0.0399 -1.9112 0.056 (-0.1546 | 0.0019)

AR(4) -0.1321 0.0401 -3.2931 0.001 (-0.2107 | -0.0535)

AR(5) -0.0767 0.0402 -1.9078 0.0564 (-0.1554 | 0.0021)

Beta 1 -0.1164 0.242 -0.4809 0.6306 (-0.5906 | 0.3579)

Beta acc\_phone\_x -0.0158 0.0179 -0.883 0.3772 (-0.0508 | 0.0192)

Beta acc\_phone\_y 0.0062 0.0108 0.5775 0.5636 (-0.015 | 0.0274)

Beta acc\_phone\_z 0.0692 0.0173 3.9879 0.0001 (0.0352 | 0.1032)

Beta gyr\_phone\_y 0.8362 0.0547 15.2777 0.0 (0.7289 | 0.9434)

Beta gyr\_phone\_z -0.1581 0.1697 -0.9315 0.3516 (-0.4907 | 0.1745)

Beta mag\_phone\_x -0.0006 0.0032 -0.1788 0.8581 (-0.0069 | 0.0057)

Beta mag\_phone\_y 0.0012 0.0055 0.219 0.8266 (-0.0095 | 0.0119)

Beta mag\_phone\_z 0.0006 0.0032 0.1944 0.8459 (-0.0057 | 0.007)

Normal Scale 0.6052

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[5, 5, 1]

Normal ARIMAX(5,0,5)

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Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -255.4794

End Date: 1970-01-01 00:04:53.525000 AIC: 550.9587

Number of observations: 291 BIC: 624.4252

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Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

AR(1) 0.3755 0.0569 6.5934 0.0 (0.2639 | 0.4871)

AR(2) 0.1215 0.0573 2.1195 0.034 (0.0091 | 0.2338)

AR(3) -0.056 0.0567 -0.9875 0.3234 (-0.1672 | 0.0552)

AR(4) -0.1426 0.0629 -2.269 0.0233 (-0.2658 | -0.0194)

AR(5) -0.0341 0.0656 -0.5208 0.6025 (-0.1626 | 0.0944)

MA(1) -0.1602 0.0898 -1.7849 0.0743 (-0.3362 | 0.0157)

MA(2) -0.1905 0.0855 -2.2282 0.0259 (-0.358 | -0.0229)

MA(3) -0.1854 0.0904 -2.0516 0.0402 (-0.3625 | -0.0083)

MA(4) -0.0453 0.1019 -0.4448 0.6564 (-0.2449 | 0.1543)

MA(5) -0.0327 0.0839 -0.3903 0.6963 (-0.1972 | 0.1317)

Beta 1 -0.0599 0.1736 -0.3451 0.73 (-0.4002 | 0.2804)

Beta acc\_phone\_x -0.0107 0.0112 -0.9539 0.3401 (-0.0326 | 0.0113)

Beta acc\_phone\_y -0.0009 0.01 -0.088 0.9299 (-0.0205 | 0.0187)

Beta acc\_phone\_z 0.0616 0.0176 3.4934 0.0005 (0.027 | 0.0961)

Beta gyr\_phone\_y 0.8137 0.0552 14.7356 0.0 (0.7055 | 0.9219)

Beta gyr\_phone\_z -0.1508 0.1639 -0.9201 0.3575 (-0.472 | 0.1704)

Beta mag\_phone\_x -0.0003 0.0017 -0.1841 0.854 (-0.0035 | 0.0029)

Beta mag\_phone\_y 0.0009 0.0033 0.2781 0.7809 (-0.0056 | 0.0075)

Beta mag\_phone\_z 0.0007 0.0015 0.4617 0.6443 (-0.0023 | 0.0037)

Normal Scale 0.5821

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[5, 5, 1]

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Normal ARIMAX(5,0,5)

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Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -373.5495

End Date: 1970-01-01 00:07:00.885000 AIC: 787.0991

Number of observations: 419 BIC: 867.8565

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Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

AR(1) 0.3674 0.0458 8.0296 0.0 (0.2777 | 0.4571)

AR(2) 0.104 0.0469 2.2167 0.0266 (0.012 | 0.196)

AR(3) -0.0423 0.0444 -0.953 0.3406 (-0.1292 | 0.0447)

AR(4) -0.1648 0.0475 -3.4718 0.0005 (-0.2579 | -0.0718)

AR(5) -0.0206 0.0496 -0.4151 0.6781 (-0.1179 | 0.0767)

MA(1) -0.1238 0.0706 -1.7545 0.0793 (-0.2621 | 0.0145)

MA(2) -0.1997 0.0728 -2.7437 0.0061 (-0.3423 | -0.057)

MA(3) -0.2141 0.0655 -3.2698 0.0011 (-0.3424 | -0.0858)

MA(4) -0.0565 0.0817 -0.692 0.4889 (-0.2167 | 0.1036)

MA(5) 0.0143 0.0619 0.2308 0.8174 (-0.1071 | 0.1357)

Beta 1 0.1516 0.1346 1.1262 0.2601 (-0.1123 | 0.4155)

Beta acc\_phone\_x -0.0088 0.0111 -0.7913 0.4288 (-0.0306 | 0.013)

Beta acc\_phone\_y -0.0071 0.0077 -0.921 0.3571 (-0.0223 | 0.008)

Beta acc\_phone\_z 0.0554 0.014 3.9482 0.0001 (0.0279 | 0.0829)

Beta gyr\_phone\_y 0.8457 0.0453 18.6527 0.0 (0.7569 | 0.9346)

Beta gyr\_phone\_z -0.1927 0.1367 -1.4099 0.1586 (-0.4606 | 0.0752)

Beta mag\_phone\_x 0.0023 0.0012 1.8541 0.0637 (-0.0001 | 0.0048)

Beta mag\_phone\_y 0.0046 0.003 1.5034 0.1327 (-0.0014 | 0.0105)

Beta mag\_phone\_z 0.0004 0.0011 0.379 0.7047 (-0.0017 | 0.0025)

Normal Scale 0.5902

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[(3.2622594840469317, 3.9448007335669302, 0.78998979871354957, 1.5649148906055217), (6.0848055454365371, 6.4631631863457644, 0.68782194143885889, 1.19913374236936), (2.7213352581673873, 3.3153357181053202, 0.42541370121481459, 1.0619341653593357)]

initial set & 3.2623 \emph{( 3.9448 )} & 0.7900 \emph{( 1.5649 )} & 6.0848 \emph{( 6.4632 )} & 0.6878 \emph{( 1.1991 )} & 2.7213 \emph{( 3.3153 )} & 0.4254 \emph{( 1.0619 )} \\\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, 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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[50, 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, 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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[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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[0.6, 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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[(3.2512645156144169, 3.9322896078803318, 0.72065745741653209, 1.4132057195677306), (6.4400189975348709, 6.6147612825116919, 0.49354567924684467, 1.2623408141654542), (0, 0, 0, 0)]

Chapter 3 & 3.2513 \emph{( 3.9323 )} & 0.7207 \emph{( 1.4132 )} & 6.4400 \emph{( 6.6148 )} & 0.4935 \emph{( 1.2623 )} & 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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[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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[0.6, 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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---- 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, 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]

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[0.8, 400]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

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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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[0.6, 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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[(3.2506960177717459, 3.9318320040822718, 1.0985162990000452, 1.5935371196529524), (5.6942391725771895, 6.1331193903652999, 4.6456085037356294, 3.9537553175768472), (0, 0, 0, 0)]

Chapter 4 & 3.2507 \emph{( 3.9318 )} & 1.0985 \emph{( 1.5935 )} & 5.6942 \emph{( 6.1331 )} & 4.6456 \emph{( 3.9538 )} & 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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[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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[0.6, 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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---- 2

[0.6, 400]

[0.6, 700]

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[0.8, 400]

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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]

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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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[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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[0.6, 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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[(3.2505880717984943, 3.9317790314333023, 2.0595675941094589, 1.9497017338672709), (5.7491920908747831, 6.1497261342240366, 3.050341782632028, 3.1501446716096413), (0, 0, 0, 0)]

Chapter 5 & 3.2506 \emph{( 3.9318 )} & 2.0596 \emph{( 1.9497 )} & 5.7492 \emph{( 6.1497 )} & 3.0503 \emph{( 3.1501 )} & 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, 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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---- 1

[0.6, 400]

[0.6, 700]

[0.6, 1000]

[0.8, 400]

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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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[0.6, 400]

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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, 250]

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[0.6, 400]

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[0.6, 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]

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[0.8, 1000]

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[50, True, 250]

[50, True, 500]

[100, True, 250]

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[100, True, 500]

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[(3.2530952800079853, 3.9341415491877618, 0.8892447916511852, 1.4590476224531241), (6.5928369081716669, 6.7496387141085874, 0.72687323325407627, 1.3120635242485723), (0, 0, 0, 0)]

Selected features & 3.2531 \emph{( 3.9341 )} & 0.8892 \emph{( 1.4590 )} & 6.5928 \emph{( 6.7496 )} & 0.7269 \emph{( 1.3121 )} & 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]

-------

[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]

Normal ARIMAX(0,0,0)

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

Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:00 Log Likelihood: -362.0103

End Date: 1970-01-01 00:04:53.525000 AIC: 744.0206

Number of observations: 296 BIC: 780.9242

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

Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

Beta 1 0.2206 0.3121 0.7068 0.4797 (-0.3911 | 0.8323)

Beta acc\_phone\_x 0.0543 0.0229 2.3776 0.0174 (0.0095 | 0.0991)

Beta acc\_phone\_y -0.0022 0.0145 -0.1505 0.8804 (-0.0305 | 0.0262)

Beta acc\_phone\_z 0.13 0.0223 5.8342 0.0 (0.0863 | 0.1737)

Beta gyr\_phone\_y 0.7703 0.068 11.3311 0.0 (0.6371 | 0.9036)

Beta gyr\_phone\_z 0.4691 0.203 2.311 0.0208 (0.0712 | 0.8669)

Beta mag\_phone\_x 0.0008 0.0041 0.192 0.8478 (-0.0072 | 0.0088)

Beta mag\_phone\_y 0.0119 0.0072 1.6627 0.0964 (-0.0021 | 0.026)

Beta mag\_phone\_z -0.012 0.004 -3.0319 0.0024 (-0.0198 | -0.0043)

Normal Scale 0.8221

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

[0, 5, 1]

Normal ARIMAX(0,0,5)

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

Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -292.1866

End Date: 1970-01-01 00:04:53.525000 AIC: 614.3732

Number of observations: 291 BIC: 669.4731

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

Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

MA(1) 0.3055 0.0715 4.2738 0.0 (0.1654 | 0.4456)

MA(2) -0.0288 0.0541 -0.532 0.5948 (-0.1348 | 0.0772)

MA(3) -0.4382 0.0602 -7.282 0.0 (-0.5561 | -0.3203)

MA(4) -0.5285 0.0591 -8.9374 0.0 (-0.6444 | -0.4126)

MA(5) -0.3899 0.0531 -7.3437 0.0 (-0.494 | -0.2858)

Beta 1 0.0072 0.2031 0.0356 0.9716 (-0.3909 | 0.4054)

Beta acc\_phone\_x -0.0151 0.0076 -1.9787 0.0478 (-0.0301 | -0.0001)

Beta acc\_phone\_y 0.0152 0.0105 1.4425 0.1492 (-0.0055 | 0.0358)

Beta acc\_phone\_z 0.0386 0.0201 1.9176 0.0552 (-0.0009 | 0.078)

Beta gyr\_phone\_y 0.7592 0.0533 14.2481 0.0 (0.6547 | 0.8636)

Beta gyr\_phone\_z 0.0837 0.1766 0.4738 0.6356 (-0.2625 | 0.4299)

Beta mag\_phone\_x 0.0002 0.0014 0.1722 0.8633 (-0.0025 | 0.003)

Beta mag\_phone\_y 0.0049 0.0039 1.2519 0.2106 (-0.0028 | 0.0126)

Beta mag\_phone\_z 0.0008 0.0016 0.4995 0.6174 (-0.0023 | 0.0039)

Normal Scale 0.7219

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[5, 0, 1]

Normal ARIMAX(5,0,0)

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Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -266.7467

End Date: 1970-01-01 00:04:53.525000 AIC: 563.4934

Number of observations: 291 BIC: 618.5933

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Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

AR(1) 0.3539 0.0421 8.4018 0.0 (0.2713 | 0.4364)

AR(2) 0.0863 0.0396 2.1801 0.0292 (0.0087 | 0.1639)

AR(3) -0.0763 0.0399 -1.9112 0.056 (-0.1546 | 0.0019)

AR(4) -0.1321 0.0401 -3.2931 0.001 (-0.2107 | -0.0535)

AR(5) -0.0767 0.0402 -1.9078 0.0564 (-0.1554 | 0.0021)

Beta 1 -0.1164 0.242 -0.4809 0.6306 (-0.5906 | 0.3579)

Beta acc\_phone\_x -0.0158 0.0179 -0.883 0.3772 (-0.0508 | 0.0192)

Beta acc\_phone\_y 0.0062 0.0108 0.5775 0.5636 (-0.015 | 0.0274)

Beta acc\_phone\_z 0.0692 0.0173 3.9879 0.0001 (0.0352 | 0.1032)

Beta gyr\_phone\_y 0.8362 0.0547 15.2777 0.0 (0.7289 | 0.9434)

Beta gyr\_phone\_z -0.1581 0.1697 -0.9315 0.3516 (-0.4907 | 0.1745)

Beta mag\_phone\_x -0.0006 0.0032 -0.1788 0.8581 (-0.0069 | 0.0057)

Beta mag\_phone\_y 0.0012 0.0055 0.219 0.8266 (-0.0095 | 0.0119)

Beta mag\_phone\_z 0.0006 0.0032 0.1944 0.8459 (-0.0057 | 0.007)

Normal Scale 0.6052

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

[5, 5, 1]

Normal ARIMAX(5,0,5)

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

Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -255.4794

End Date: 1970-01-01 00:04:53.525000 AIC: 550.9587

Number of observations: 291 BIC: 624.4252

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

Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

AR(1) 0.3755 0.0569 6.5934 0.0 (0.2639 | 0.4871)

AR(2) 0.1215 0.0573 2.1195 0.034 (0.0091 | 0.2338)

AR(3) -0.056 0.0567 -0.9875 0.3234 (-0.1672 | 0.0552)

AR(4) -0.1426 0.0629 -2.269 0.0233 (-0.2658 | -0.0194)

AR(5) -0.0341 0.0656 -0.5208 0.6025 (-0.1626 | 0.0944)

MA(1) -0.1602 0.0898 -1.7849 0.0743 (-0.3362 | 0.0157)

MA(2) -0.1905 0.0855 -2.2282 0.0259 (-0.358 | -0.0229)

MA(3) -0.1854 0.0904 -2.0516 0.0402 (-0.3625 | -0.0083)

MA(4) -0.0453 0.1019 -0.4448 0.6564 (-0.2449 | 0.1543)

MA(5) -0.0327 0.0839 -0.3903 0.6963 (-0.1972 | 0.1317)

Beta 1 -0.0599 0.1736 -0.3451 0.73 (-0.4002 | 0.2804)

Beta acc\_phone\_x -0.0107 0.0112 -0.9539 0.3401 (-0.0326 | 0.0113)

Beta acc\_phone\_y -0.0009 0.01 -0.088 0.9299 (-0.0205 | 0.0187)

Beta acc\_phone\_z 0.0616 0.0176 3.4934 0.0005 (0.027 | 0.0961)

Beta gyr\_phone\_y 0.8137 0.0552 14.7356 0.0 (0.7055 | 0.9219)

Beta gyr\_phone\_z -0.1508 0.1639 -0.9201 0.3575 (-0.472 | 0.1704)

Beta mag\_phone\_x -0.0003 0.0017 -0.1841 0.854 (-0.0035 | 0.0029)

Beta mag\_phone\_y 0.0009 0.0033 0.2781 0.7809 (-0.0056 | 0.0075)

Beta mag\_phone\_z 0.0007 0.0015 0.4617 0.6443 (-0.0023 | 0.0037)

Normal Scale 0.5821

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[5, 5, 1]

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Normal ARIMAX(5,0,5)

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

Dependent Variable: gyr\_phone\_x Method: MLE

Start Date: 1970-01-01 00:00:04.975000 Log Likelihood: -373.5495

End Date: 1970-01-01 00:07:00.885000 AIC: 787.0991

Number of observations: 419 BIC: 867.8565

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Latent Variable Estimate Std Error z P>|z| 95% C.I.

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

AR(1) 0.3674 0.0458 8.0296 0.0 (0.2777 | 0.4571)

AR(2) 0.104 0.0469 2.2167 0.0266 (0.012 | 0.196)

AR(3) -0.0423 0.0444 -0.953 0.3406 (-0.1292 | 0.0447)

AR(4) -0.1648 0.0475 -3.4718 0.0005 (-0.2579 | -0.0718)

AR(5) -0.0206 0.0496 -0.4151 0.6781 (-0.1179 | 0.0767)

MA(1) -0.1238 0.0706 -1.7545 0.0793 (-0.2621 | 0.0145)

MA(2) -0.1997 0.0728 -2.7437 0.0061 (-0.3423 | -0.057)

MA(3) -0.2141 0.0655 -3.2698 0.0011 (-0.3424 | -0.0858)

MA(4) -0.0565 0.0817 -0.692 0.4889 (-0.2167 | 0.1036)

MA(5) 0.0143 0.0619 0.2308 0.8174 (-0.1071 | 0.1357)

Beta 1 0.1516 0.1346 1.1262 0.2601 (-0.1123 | 0.4155)

Beta acc\_phone\_x -0.0088 0.0111 -0.7913 0.4288 (-0.0306 | 0.013)

Beta acc\_phone\_y -0.0071 0.0077 -0.921 0.3571 (-0.0223 | 0.008)

Beta acc\_phone\_z 0.0554 0.014 3.9482 0.0001 (0.0279 | 0.0829)

Beta gyr\_phone\_y 0.8457 0.0453 18.6527 0.0 (0.7569 | 0.9346)

Beta gyr\_phone\_z -0.1927 0.1367 -1.4099 0.1586 (-0.4606 | 0.0752)

Beta mag\_phone\_x 0.0023 0.0012 1.8541 0.0637 (-0.0001 | 0.0048)

Beta mag\_phone\_y 0.0046 0.003 1.5034 0.1327 (-0.0014 | 0.0105)

Beta mag\_phone\_z 0.0004 0.0011 0.379 0.7047 (-0.0017 | 0.0025)

Normal Scale 0.5902

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Process finished with exit code 0