How can ARIMA do one step predict with new test data? #3623

Open **reminia** opened this issue on Apr 24, 2017 · 7 comments

Labels comp-tsa

reminia commented on Apr 24, 2017

I trained a ARIMA model with two weeks data.

Now I want to use the model to do one step predict with my new test data.

But I dont know how to feed my test data to the predict function.

```
http_march_train = http_ratio['2017-03-01': '2017-03-14'] # collect every 15minutes
start = '2017-03-15 00:00'
end = '2017-03-15 23:45'
http_march_test = http_ratio[start: end]

arima = smt.ARIMA(http_march_train, (3, 0, 3))
model = arima.fit()

# this is a dynamic forecast of the 15th day
model.predict(start = start, end = end)

# How can I feed the http_march_test data to predict to do an in sample one-step new forecast?
```

reminia changed the title ~~How can ARIMA do in sample predict with new test data?~~ **How can ARIMA do one step predict with new test data?** on Apr 25, 2017

ChadFulton commented on Apr 25, 2017

If you are using Statsmodels 0.8, then my answer here #2788 (comment) shows how to do this using the `SARIMAX` model. As far as I know this use case isn't supported by our `ARIMA`.

reminia commented on May 10, 2017

@ChadFulton
As your comment, two model needed to predict based on new data.

But what if I want to use a fixed model for a long time, and to predict with

new data supplied, so I have to train a new model every new forward predict?

ChadFulton commented on May 12, 2017

It's not clear to me what you want to do. If you have two datasets and you want to fit using dataset A and then use the estimated parameters to perform prediction on dataset B, then you would do:

```
modelA = sm.tsa.SARIMAX(dataset_A, order=(3, 0, 3))
resA = modelA.fit()

modelB = sm.tsa.SARIMAX(dataset_B, order=(3, 0, 3))
resB = modelB.smooth(resA.params)
```

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ChadFulton commented on May 12, 2017

And then e.g.

```
resB.forecast()
```

reminia commented on May 12, 2017

@ChadFulton
Thanks very much. This is very helpful.

If dataset_A is followed by dataset_B , then:

modelB = sm.tsa.SARIMAX(dataset_A + dataset_B, order=(3, 0, 3))

ChadFulton mentioned this issue on Oct 6, 2017

How to get prediction within the dates provided in sample but with different exog variable values #3969

Closed

josef-pkt mentioned this issue on Oct 10, 2017

SARIMAX dynamic prediction #4012

Closed

Nomarsky commented on Aug 14, 2018

Hi

@ChadFulton I am not sure if I understood the answer to @reminia. I have a train and test data time series so test part is continuing the train dataset. If you have a SARIMA model like SARIMAX(2, 0, 0)x(4, 1, 1, 7) to predict in the test dataset, for the first predictions in the test dataset, you would need data that is containned in the train dataset because of the seasonality part, so you can't apply correctly the model, is this correct?

Thanks

ChadFulton commented on Aug 16, 2018

So I think you're saying that you want to train the model (i.e. estimate the parameters of the model) on a training sample, and then you want to do something with the test dataset. But I can't tell what it is you want to do with the test dataset, can you elaborate on that?

bashtage added the comp-tsa label on Jul 23, 2019

Assignees

No one assigned

Projects

None yet

Milestone

No milestone

Linked pull requests

Successfully merging a pull request may close this issue.

None yet

4 participants