
magi Documentation

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magi

1.1 pip

```
$ pip install magi
```

1.2 Imports

```
from magi.core import forecast
from magi.plotting import fc_plot, acc_plot
from magi.utils import gen_ts
from magi.accuracy import accuracy
```

1.3 Single series R model

Input format should be a series with datetime index

```
df = gen_ts()
fc_obj = forecast(time_series=df['ts2'], forecast_periods=18, frequency=12)
forecast_dic = fc_obj.R(model='auto.arima(rdata,D=1,stationary=TRUE)')
```

1.4 Multiple Series R model in parallel

Input format should be a dataframe of series with datetime index with datetime index, returning fitted and predicted values in a dataframe

```
from dask.distributed import Client, LocalCluster
import dask
cluster = LocalCluster()
client = Client(cluster)
df = gen_ts()
fc_obj = forecast(time_series=df, forecast_periods=18, frequency=12)
forecast_df = fc_obj.R(model='thetaf', fit_pred=True)
```

1.5 Single Series Prophet model

```
df = gen_ts()
fc_obj = forecast(time_series=df['ts2'], forecast_periods=18, frequency=12)
forecast_dic = fc_obj.prophet(changepoint_prior_scale=.25)
```

1.6 Multiple Series Prophet model in parallel

This example also shows calling cleaning ts function which removes outliers and linearly interpolates missing values. Returns resulting residuals as dataframe

```
from dask.distributed import Client, LocalCluster
import dask
cluster = LocalCluster()
client = Client(cluster)
df = gen_ts()
fc_obj = forecast(time_series=df, forecast_periods=18, frequency=12)
forecast_df = fc_obj.tsclean().prophet(changepoint_prior_scale=.25, residuals=True)
```

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2.1 Dependencies

- Dask / Dask Distributed
- rpy2
- fbprophet
- plotly
- cufflinks
- In R, you need the forecast package v8.3 or later to be installed if you want to use R models from the forecast package

2.2 pip

The recommended way to install `magi` is with `pip`.

```
$ pip install magi
```


3.1 Imports

```
from magi.core import forecast
from magi.plotting import fc_plot, acc_plot
from magi.utils import gen_ts
from magi.accuracy import accuracy
```

3.2 Single series R model

Input format should be a series with datetime index

```
from magi import *
df = gen_ts()
fc_obj = forecast(time_series=df['ts2'], forecast_periods=18, frequency=12)
forecast_dic = fc_obj.R(model='auto.arima(rdata,D=1,stationary=TRUE)')
```

3.3 Plot single series accuracy

```
fc_plot(forecast_dic)
```

3.4 Calculate accuracy measures single series

```
acc_dict = accuracy(forecast_dic)
```

3.5 Plot accuracy measures single series

```
acc_plot(acc_dict)
```

3.6 Multiple Series R model in parallel

Input format should be a dataframe of series with datetime index with datetime index, returning fitted and predicted values in a dataframe

```
from dask.distributed import Client, LocalCluster
import dask
cluster = LocalCluster()
client = Client(cluster)
df = gen_ts()
fc_obj = forecast(time_series=df, forecast_periods=18, frequency=12)
forecast_df = fc_obj.R(model='thetaf', fit=True)
```

3.7 Plot multiple series results

```
fc_plot(forecast_df)
```

3.8 Calculate overall accuracy measures multiple series

```
acc_dict = accuracy(df, forecast_df)
```

3.9 Calculate accuracy measures per series

```
acc_df = accuracy(df, forecast_df, separate_series=True)
```

3.10 Plot accuracy measures by series

```
acc_plot(acc_df)
```