Cheatography

Python - Time Series Cheat Sheet

by DarioPittera (aggialavura) via cheatography.com/83764/cs/23968/

Imports

```
from statsmodels.tsa.holtwinters import ExponentialSmoothing
```

Steps to fit the model and check it

train = df.iloc[:n]	use iloc to split the original dataset
fitted_mod = ExponentialSmoothing(train, trend='mul or add', seasonal='mul or add', seasonal_periods=n_unit).**fit()**	create and fit the model
predictions = fitted_mod.forecast(n of units)	forecast
train.plot() test.plot() predictions.plot()	plot forecasted values together with train and test data

Evaluation metrics

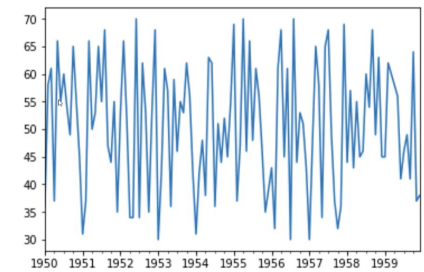
from sklearn.metrics import mean_squared_error, mean_absolute_error	import the necessary libraries
mean_squared_error(test, predictions)	calculate the MSE
np.sqrt(mean_squared_error(test, predictions))	calculate the RMSE

now that we saw our model was not that far off (if that's the case), we retrain our model on the entire dataset and we can plot it to show the future behaviour of our data

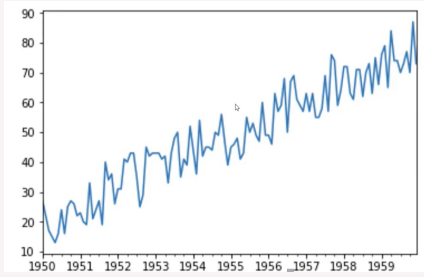
IMPORTANT CONCEPTS

STATIONARY data: these kinds of data do not exhibit trends or seasonality.
NON-STATIONARY data: these kinds of data exhibit trends or seasonality.

- stationary data



- non stationary data



- via code...

from statmodels.tsa.statespace.tools import diff	import libraries
diff(df["timeseries col"], k_diff=1)	use the diff() func to check stationarity

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