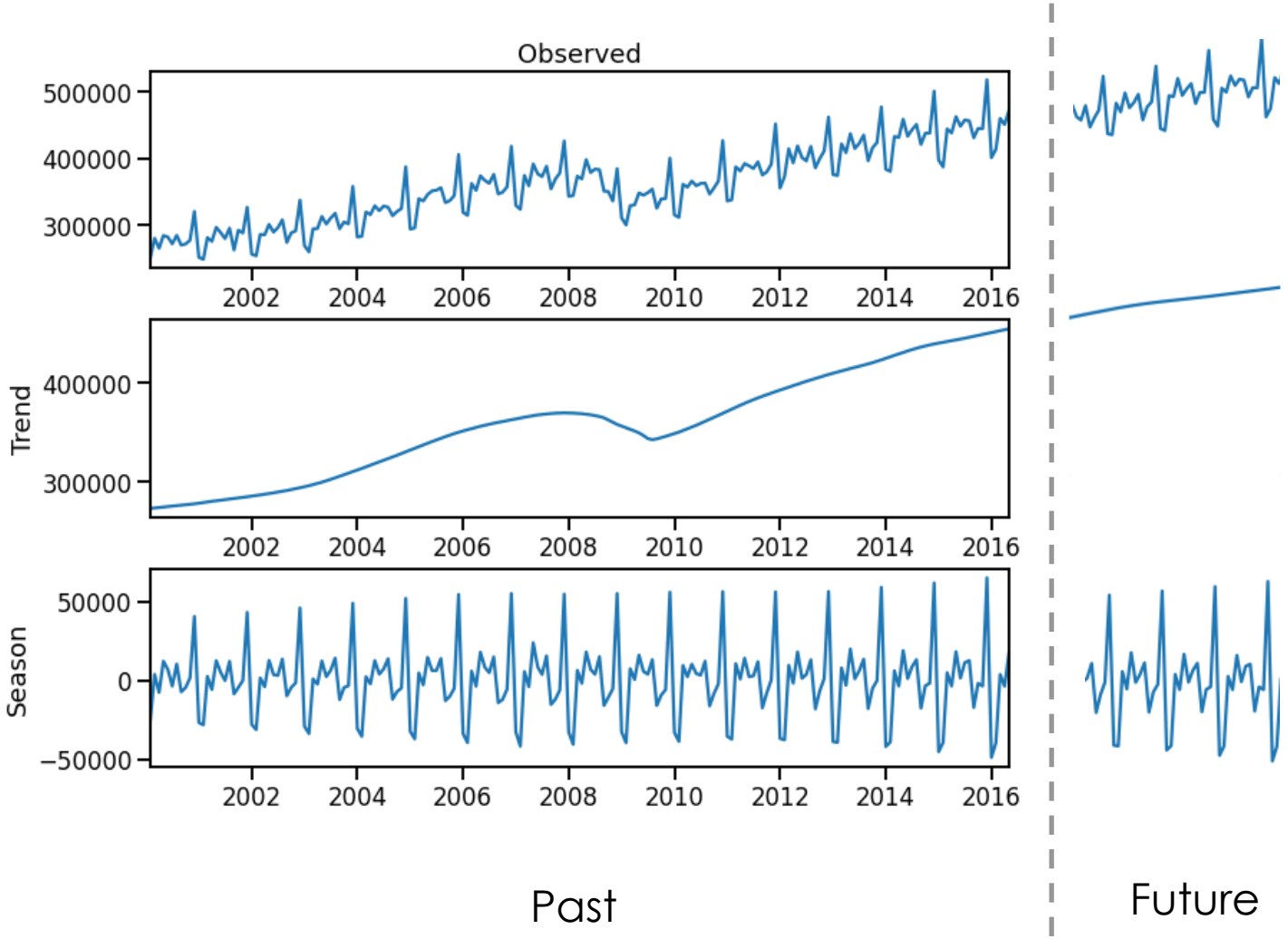
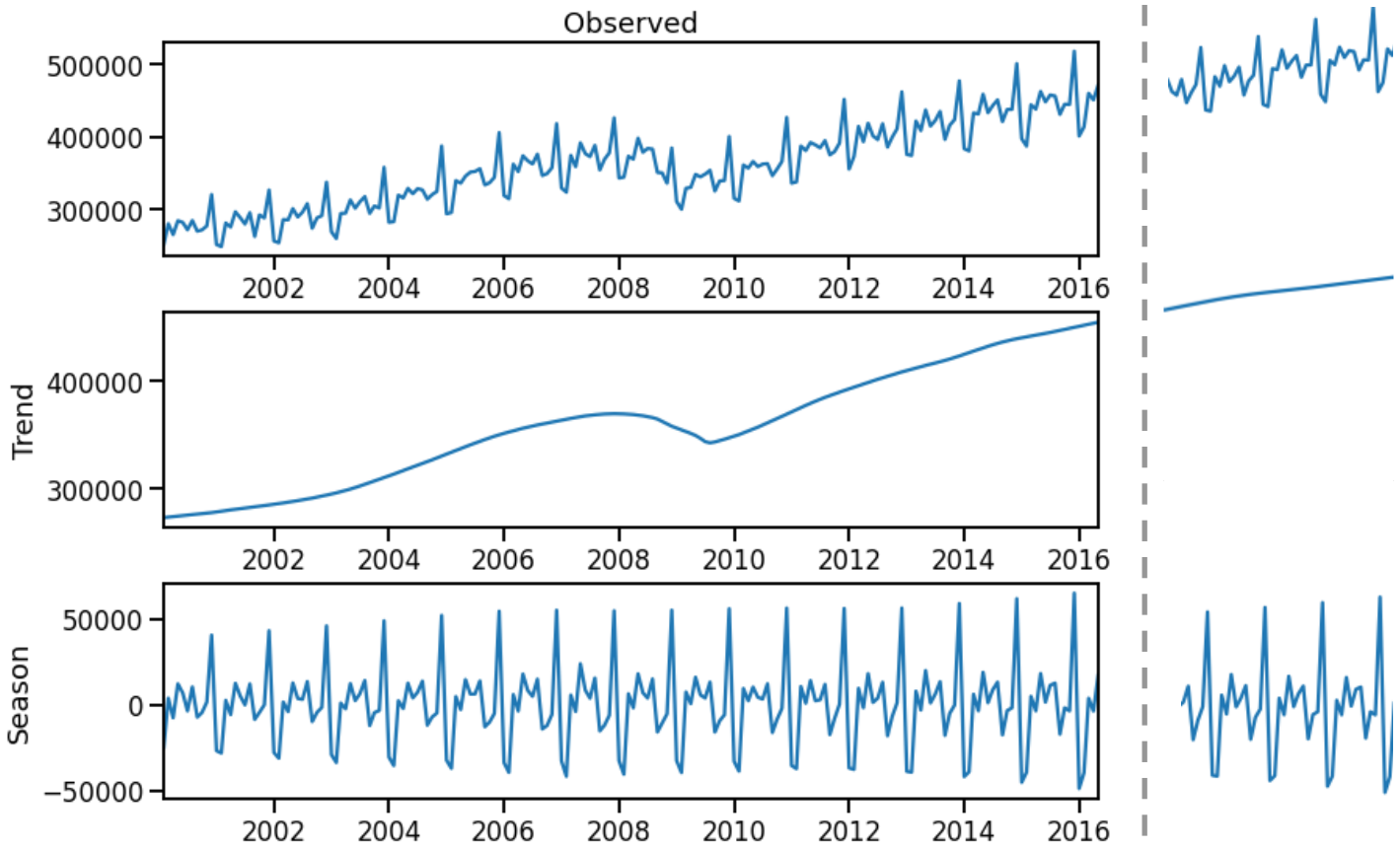
Trend features: overview

Trend features

Trend and seasonality features: motivation



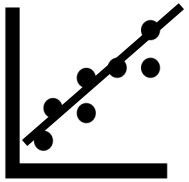
Trend and seasonality features: motivation



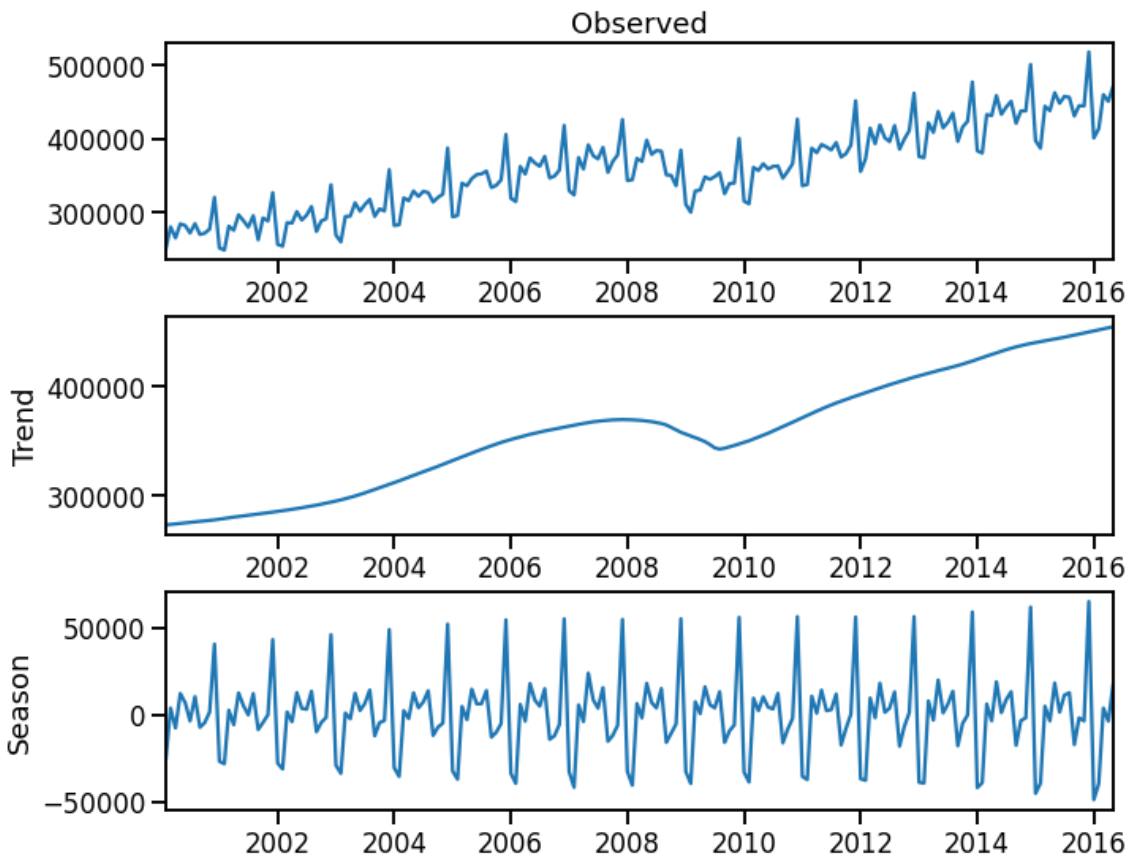
Past

Future

$\hat{y}_t =$



Trend and seasonality features: motivation



Past

Future

$\hat{y}_t =$

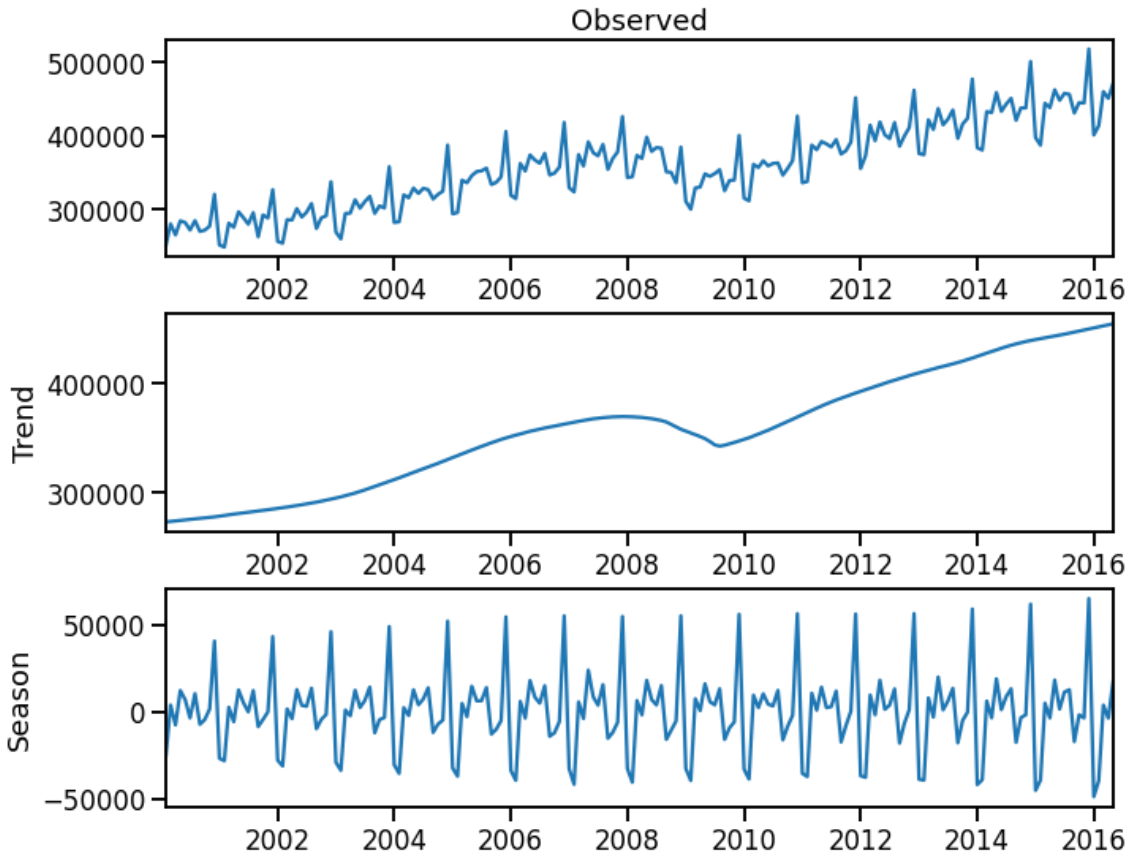
Trend

Seasonality

- Exogenous features
- Special events
- Date & time features

…

Trend and seasonality features: the challenge

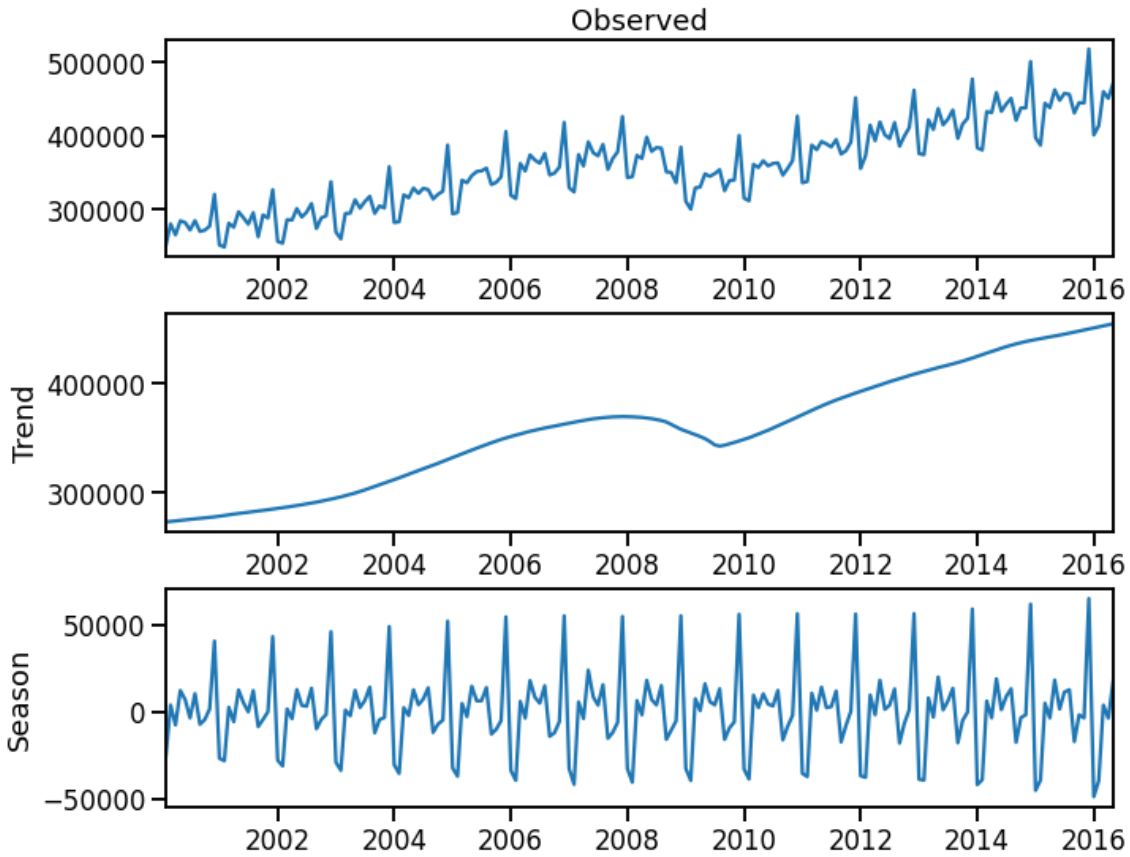


Past

Future

t	y_t	
1	23	
2	30	
3	35	Past
4	30	
5	?	
6	?	Future
7	?	

Trend and seasonality features: the challenge

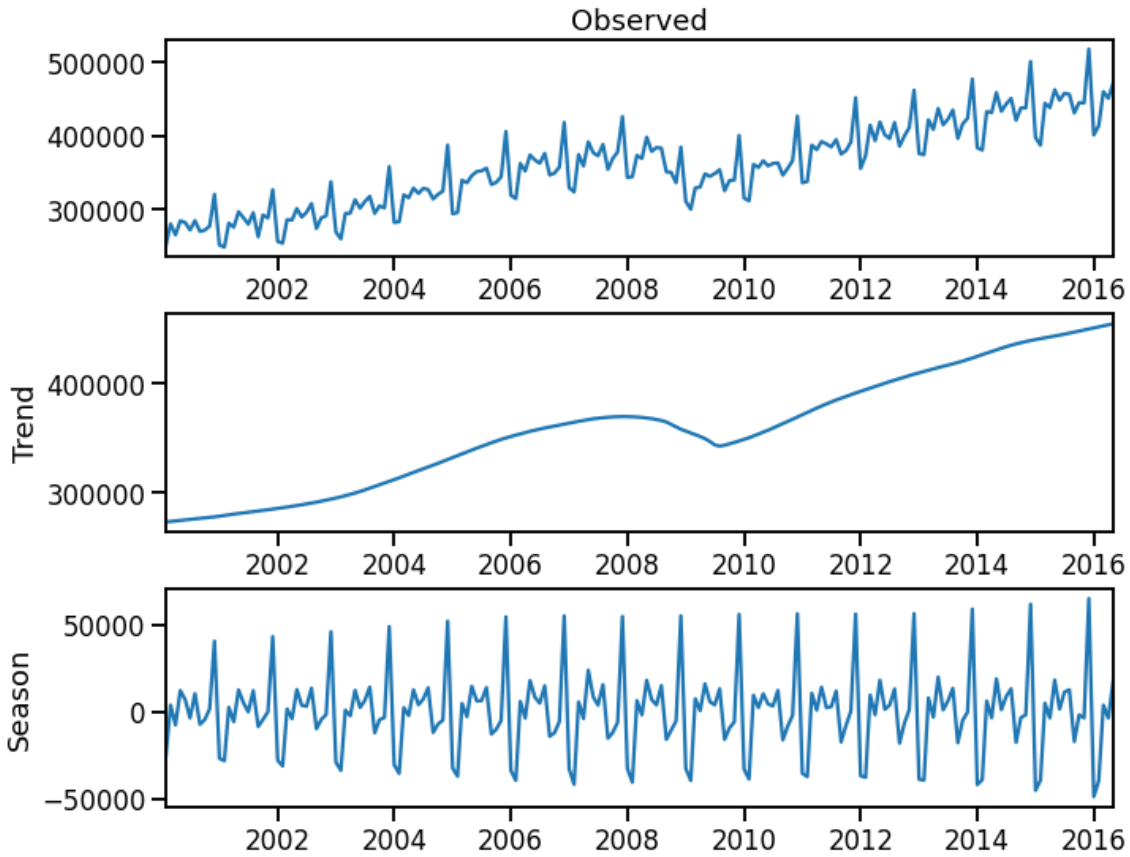


Past

Future

t	y_t	x_T
1	23	?
2	30	?
3	35	?
4	30	?
5	?	?
6	?	?
7	?	?

Trend and seasonality features: the challenge

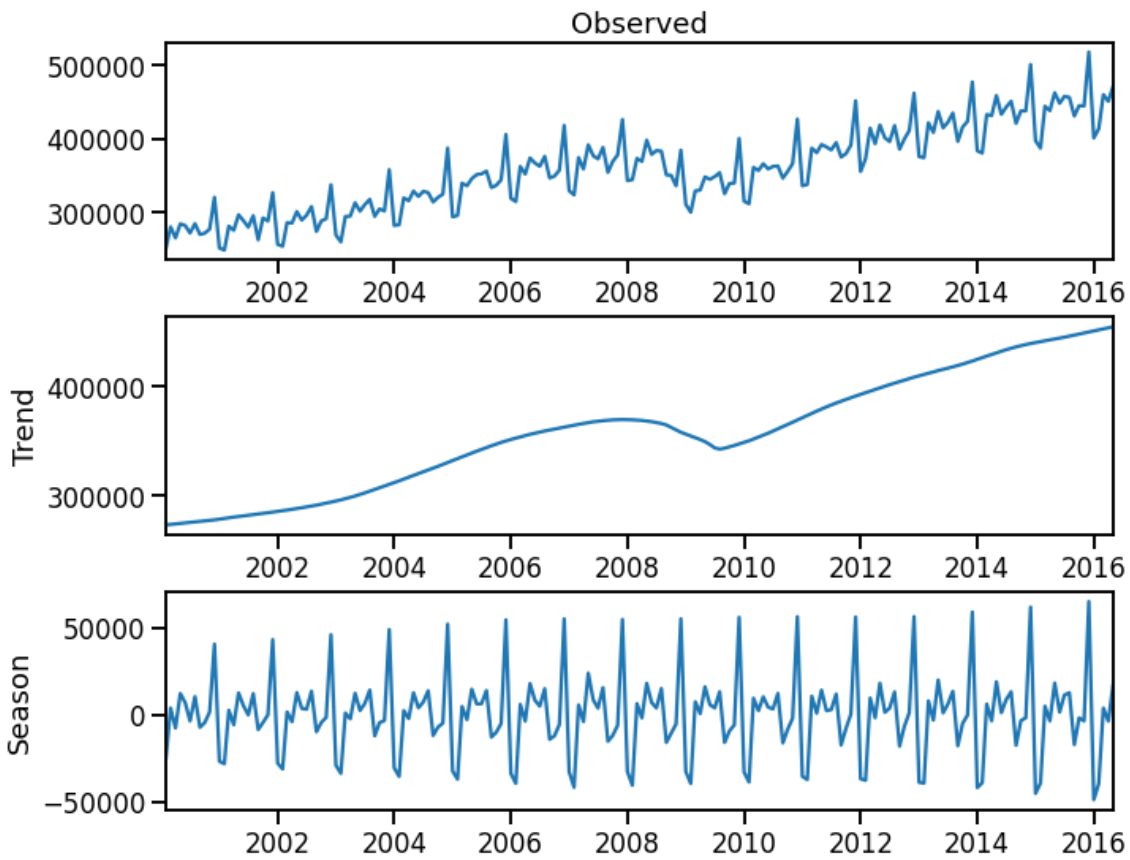


Past

Future

t	y_t	x_T	x_S
1	23	?	?
2	30	?	?
3	35	?	?
4	30	?	?
5	?	?	?
6	?	?	?
7	?	?	?

Trend and seasonality features: the challenge



Past

Future

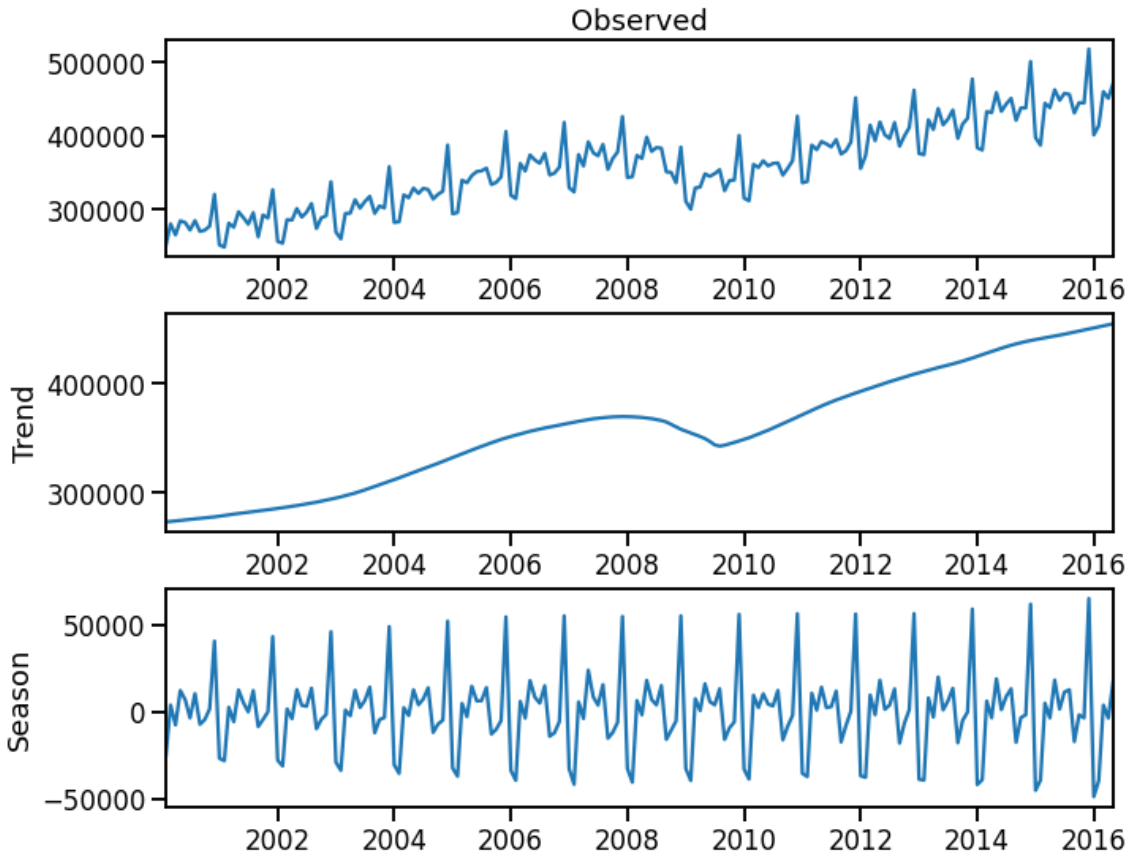
t	y_t	x_T	x_S
1	23	?	?
2	30	?	?
3	35	?	?
4	30	?	?
5	?	?	?
6	?	?	?
7	?	?	?

Target
y_train

Features
X_train

Train time
model.train(X_train, y_train)

Trend and seasonality features: the challenge



Past

Future

t	y_t	x_T	x_S
1	23	?	?
2	30	?	?
3	35	?	?
4	30	?	?
5	**?**	**?**	**?**
6	**?**	**?**	**?**
7	**?**	**?**	**?**

Target
y_pred

Features
X_pred

Predict time
y_pred = model.predict(X_pred)

In this section we will discuss…

How to create features to capture the trend.

How to implement these methods in Python.