

Missing data, anomalies and structural breaks

Final Project

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- **Pre-process data** (outliers, structural breaks and missing data)

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 2. ETS (e.g. ETS(AAA), ETS(MAM))
 3. OLS (e.g. $y \mid t, D_{weekdays}, \dots$ with ARMA errors, etc.)
 4. Comparator of your choice (e.g. gradient boosting, LSTM, BSTS, ORBIT, Prophet, etc.)

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- Compare models by their **predicting power**.

Intro

INTRO

- Industries like finance, retail, and economics frequently use time series analysis because currency and sales are always changing.
- This course covers modern methods for time series analysis and forecasting.
- Outline: Time series decomposition, ARIMA, Forecasting and model comparison, Pre-processing data Choose models (e.g. ARIMA, ETS, Theta, OLS etc.).
- In addition to mathematical foundations of time series, students get hands-on experience building predictive models in cases of both stationary and non-stationary time series using R.

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Prerequisites: Statistics, Econometrics (I), basic R knowledge