

- Divide your data into **train** and **test** subsets.
- Take care of N/A values (elimination or interpolation).
- **Scale** the train data.
- Find the best selection of features using **PCA** on the train data (2 or 3 features).
- Pick the time window.
- Train/build a **good model** with the right selection of features and the right number of states (using BIC value and log-likelihood).

**NOTE:** Do not forget to use `ntimes` when you are training models and make sure all models are **converged**.

- Use the specification of the fit model and create a similar model with the same specification. Then, feed the **scaled test data** to this new model in order to calculate **log-likelihood of the test data** on the trained model.
  - **Compare the normalized train and test log-likelihood** to make sure your model is not overfit nor underfit.
- NOTE:** If the size/length of the train data/observation is different than the size of the test data you must **normalize** both train and test loglikelihoods in order to compare them. This means, divide each log-likelihood by the length of its data.
- Use this model to **detect potential anomalous** observations!