

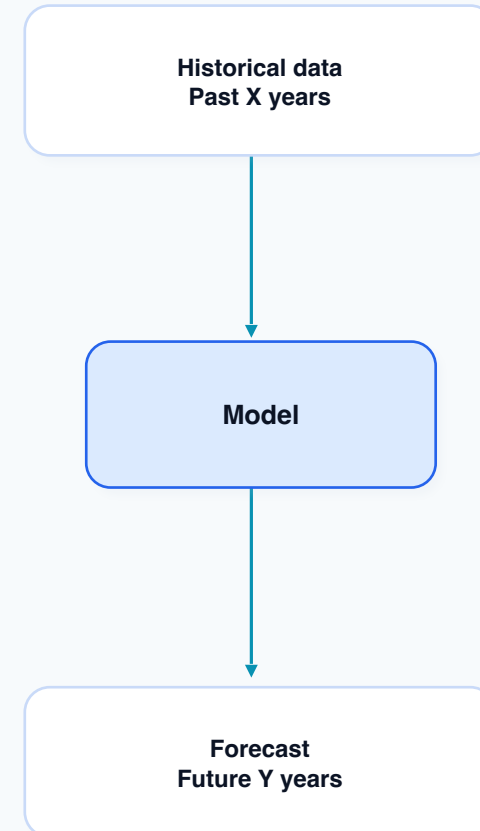
# How Can Energy Transition Impact Switzerland's Imbalance Evolution?

Predicting imbalance from historical patterns

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- Yeji Huber — [Training model]
- Alfa Diop-Wicki — Coordinator
- Carlo Maino — [Training model]
- Yassin Alnuaimie — [Scenarios + Forecast]
- Pol Brouxel — [Scenarios + Forecast]
- Babacar Diop — Coordinator
- Ivan Khomyanin — [Scenarios + Forecast]
- Daniel Mastropietro — [Scenarios + Forecast]

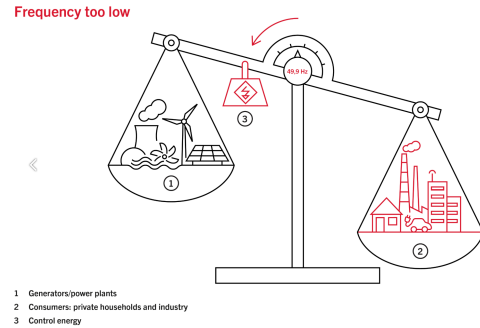
Energy Data Hackdays • Edition: Lausanne, May 7–8 2026



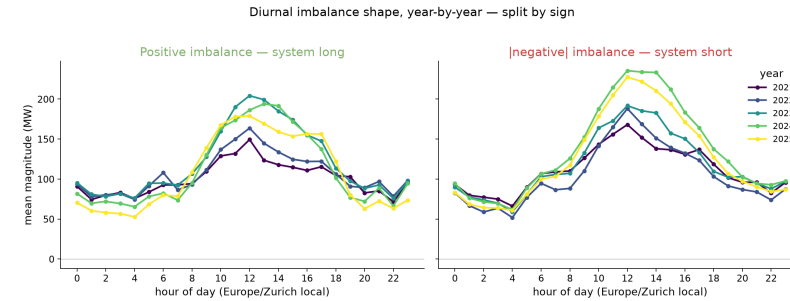
# Context

## “How will the Energy Transition Impact Switzerland’s Imbalance Evolution?”

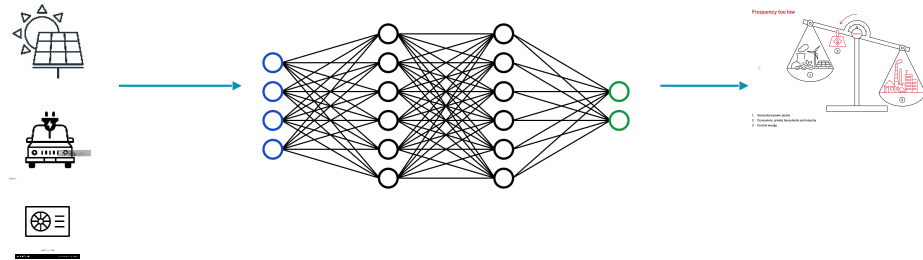
What is imbalance?



Is imbalance changing?

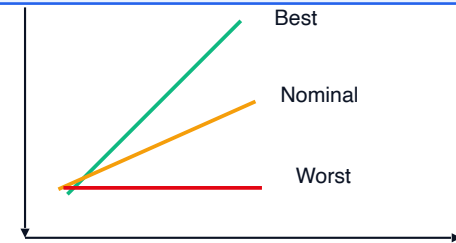


**Task 1: Build the model which predicts imbalance**

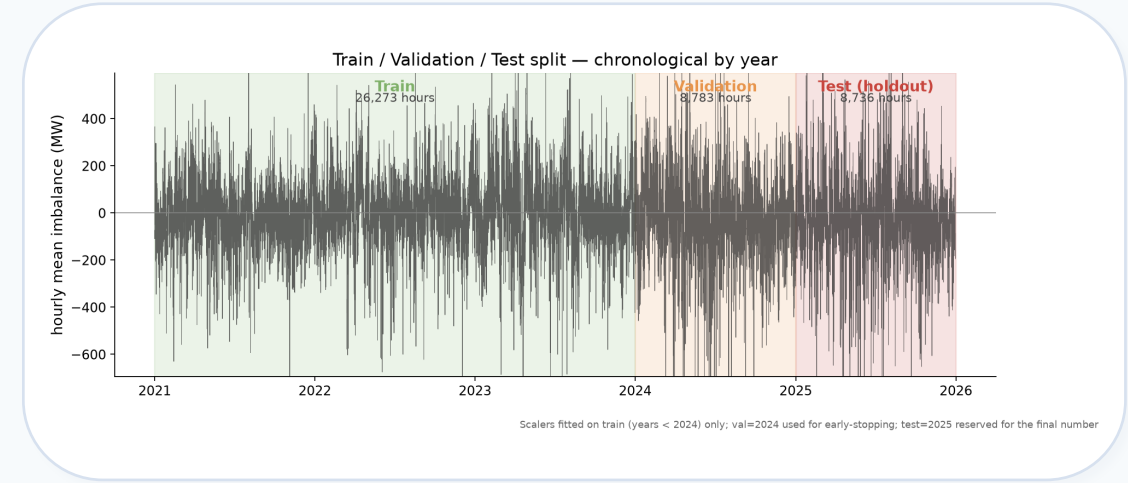
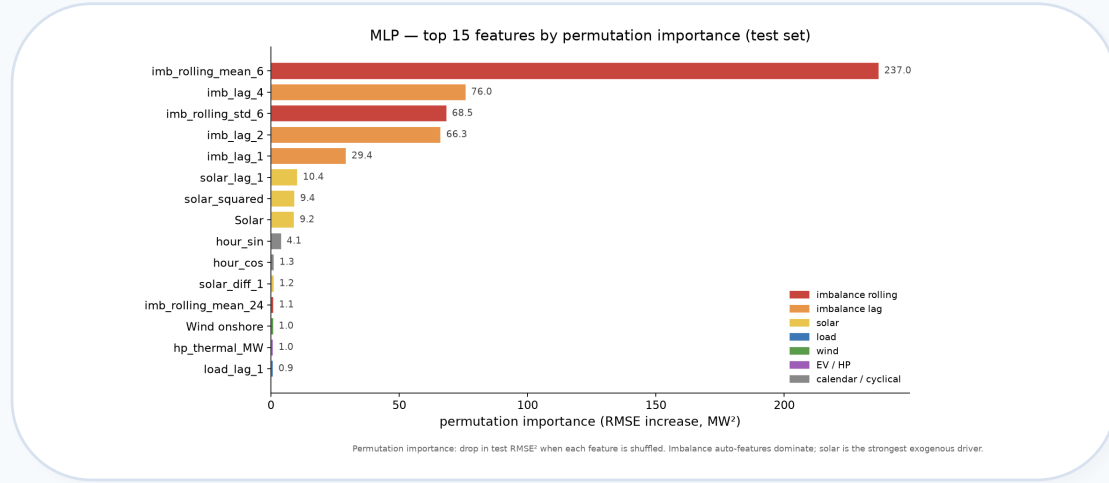
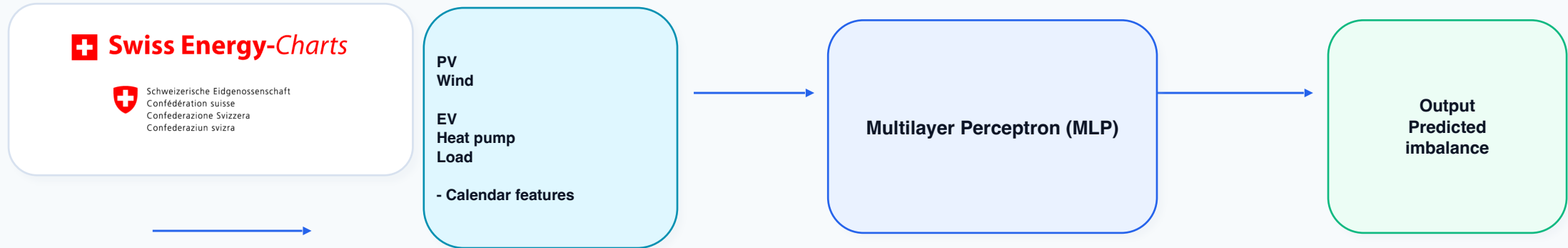


**Task 2: Use the model from task 1 to forecast imbalance for 2030**

3 energy transition scenarios

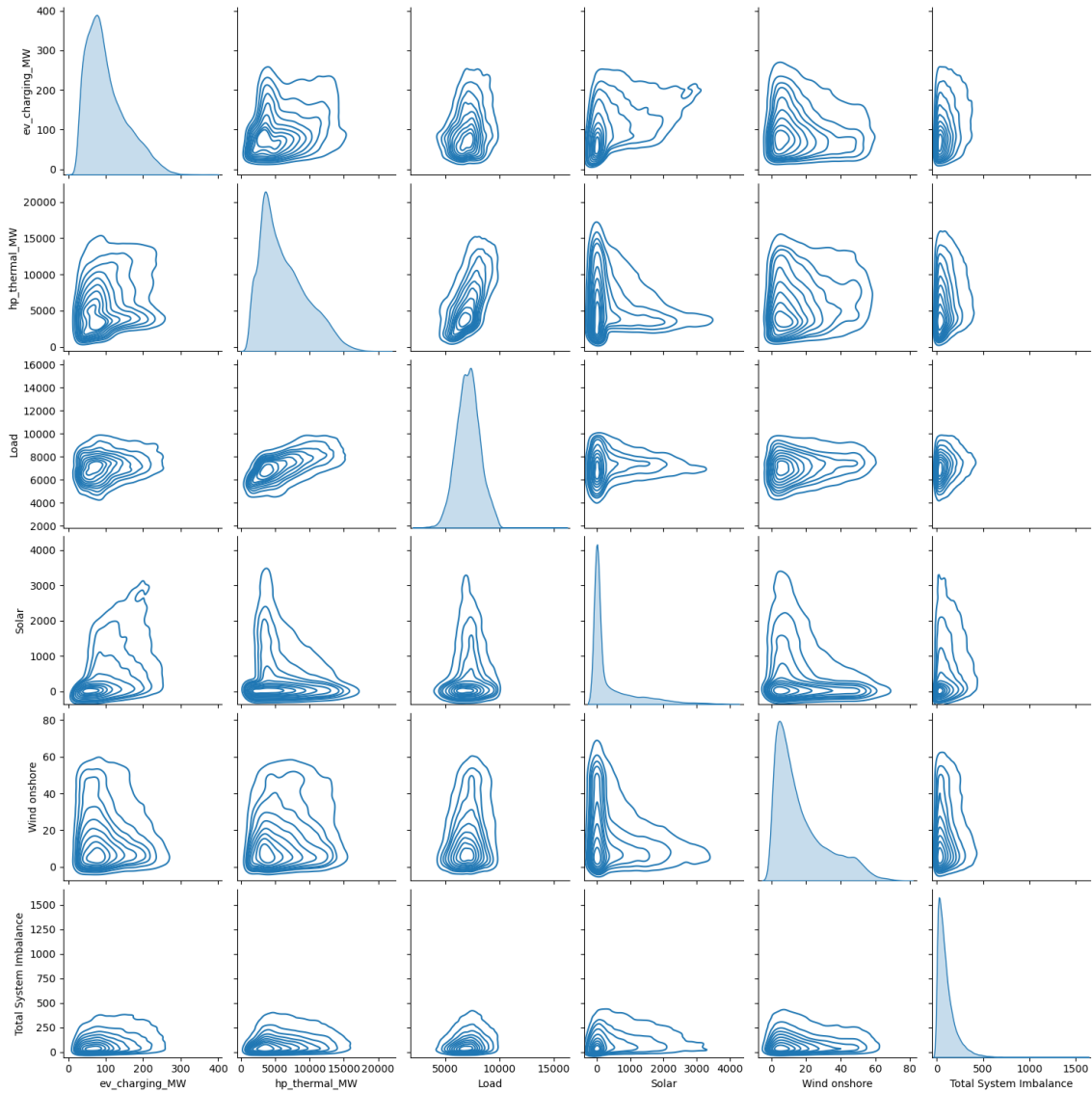


# Methods and data

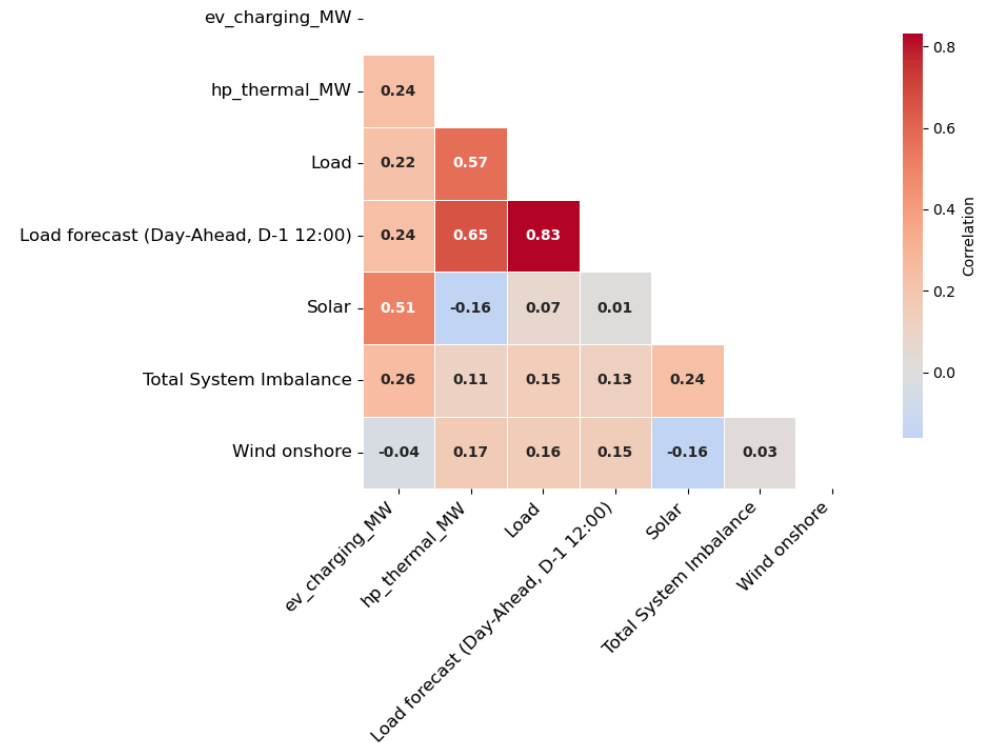


# Captured correlation

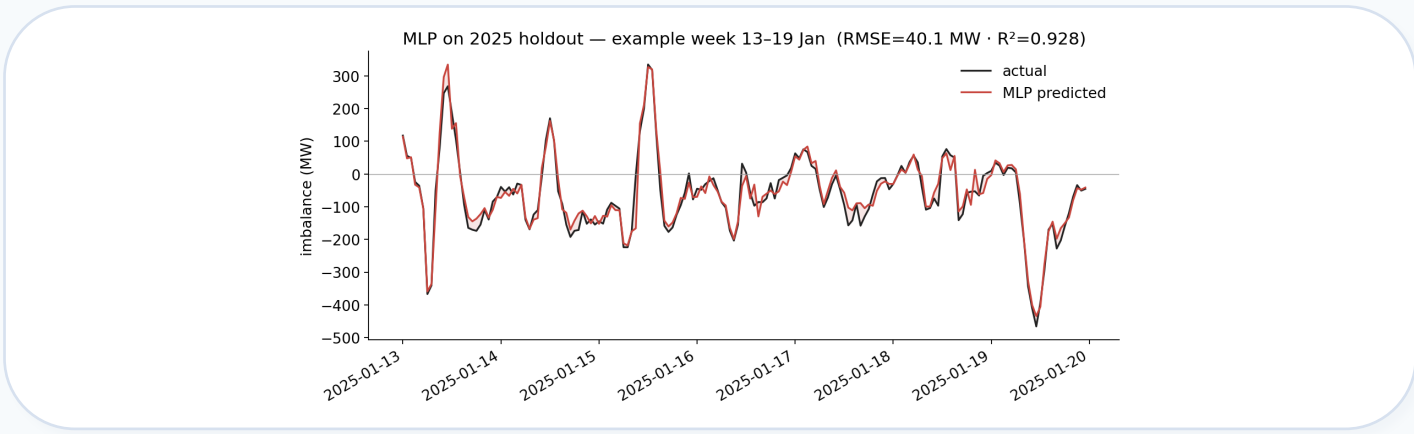
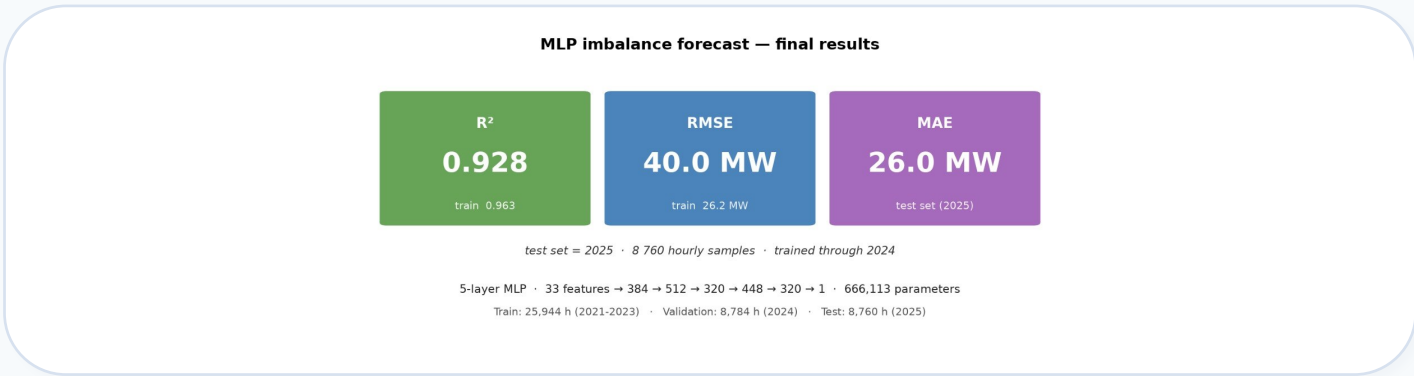
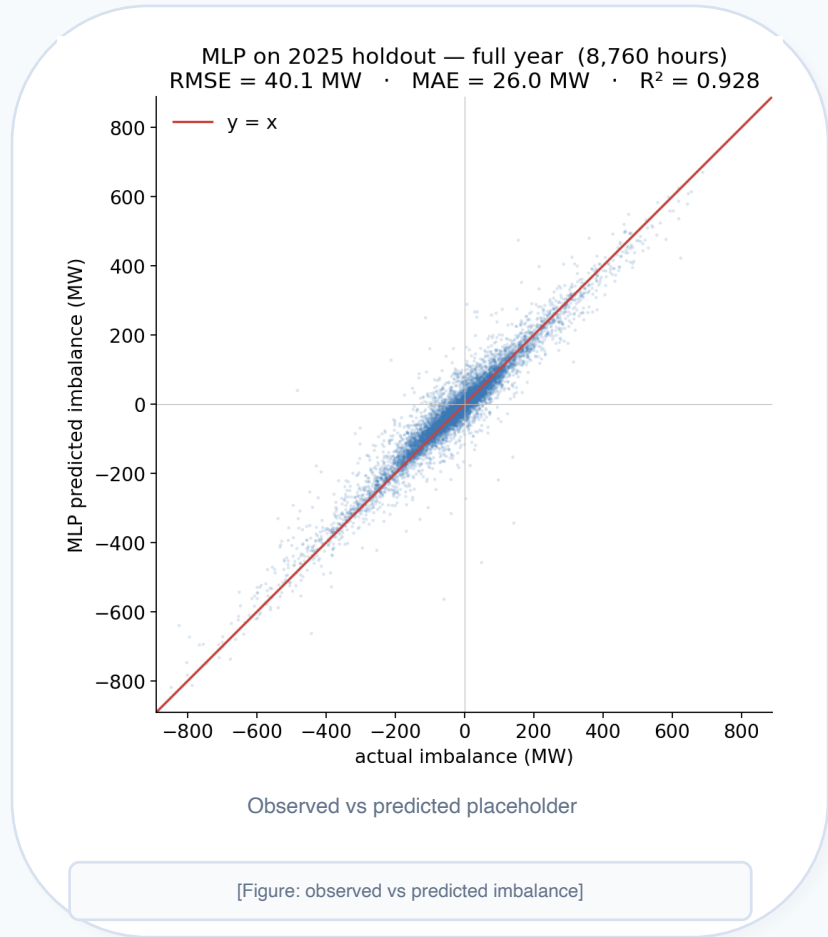
Pairplot of Core Variables



Correlation Matrix of Energy Data

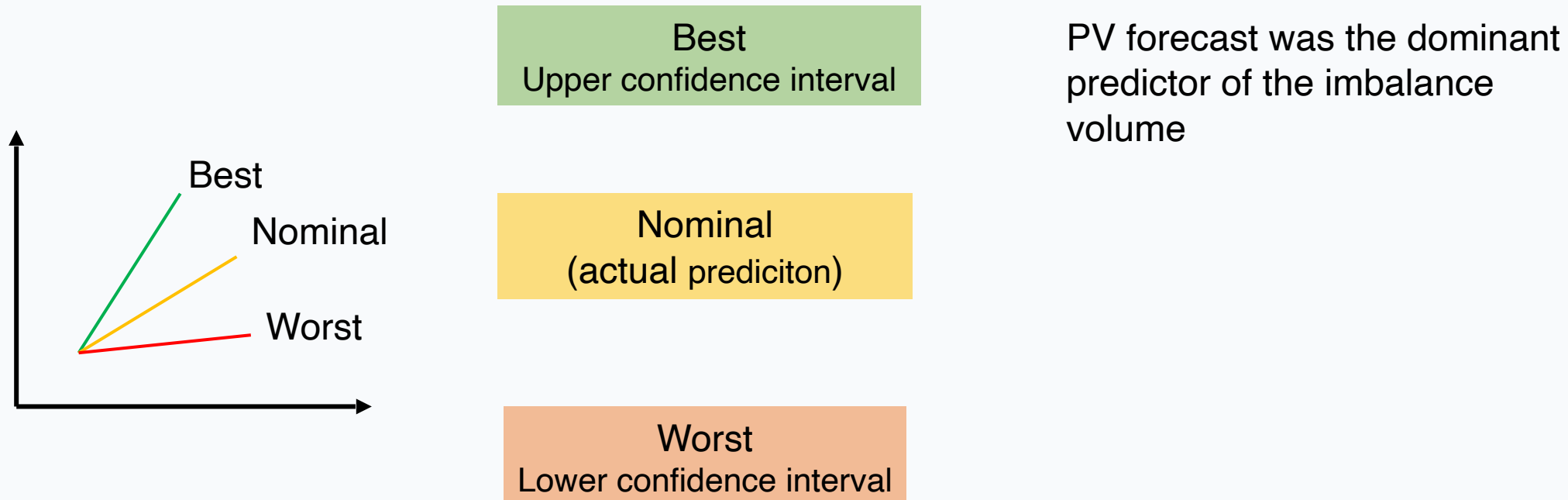


# Prediction model performance



# Forecasting future scenarios

Forecast PV and use the lower and upper bound of 95% confidence Interval to use it in our model from Task 1 to obtain worst and best case Scenario, and use the actual prediction to obtain the actual prediction of imbalance

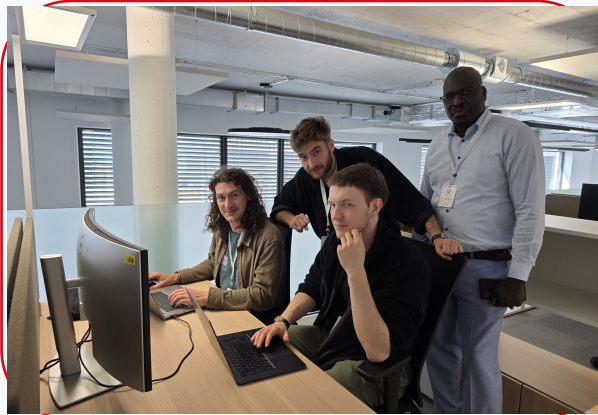


# Conclusions and future work

**Conclusion**

**Limitation**

**Future work**



**Thank you**

<https://github.com/heig-vd-ie/energydata-hackdays>

