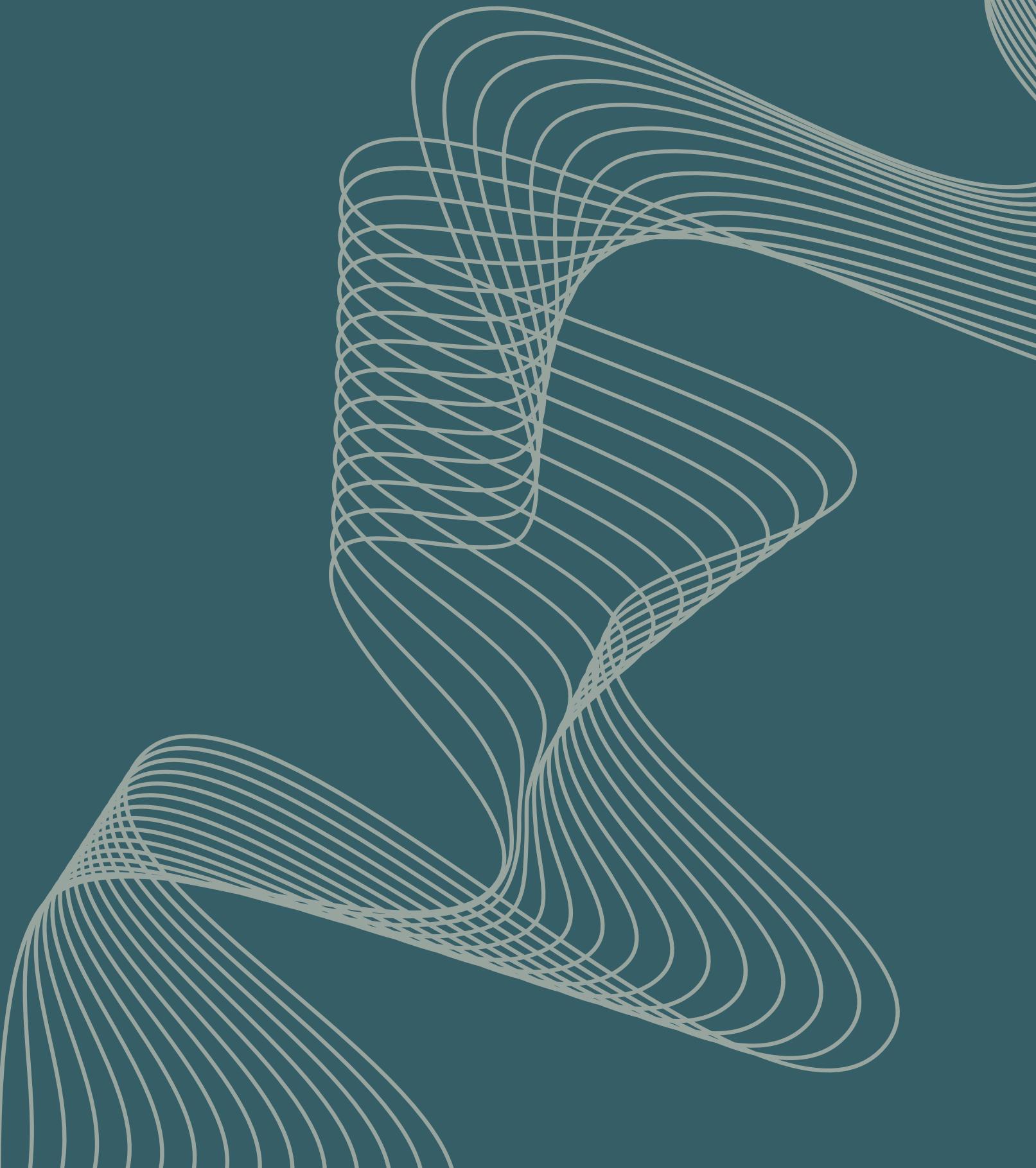
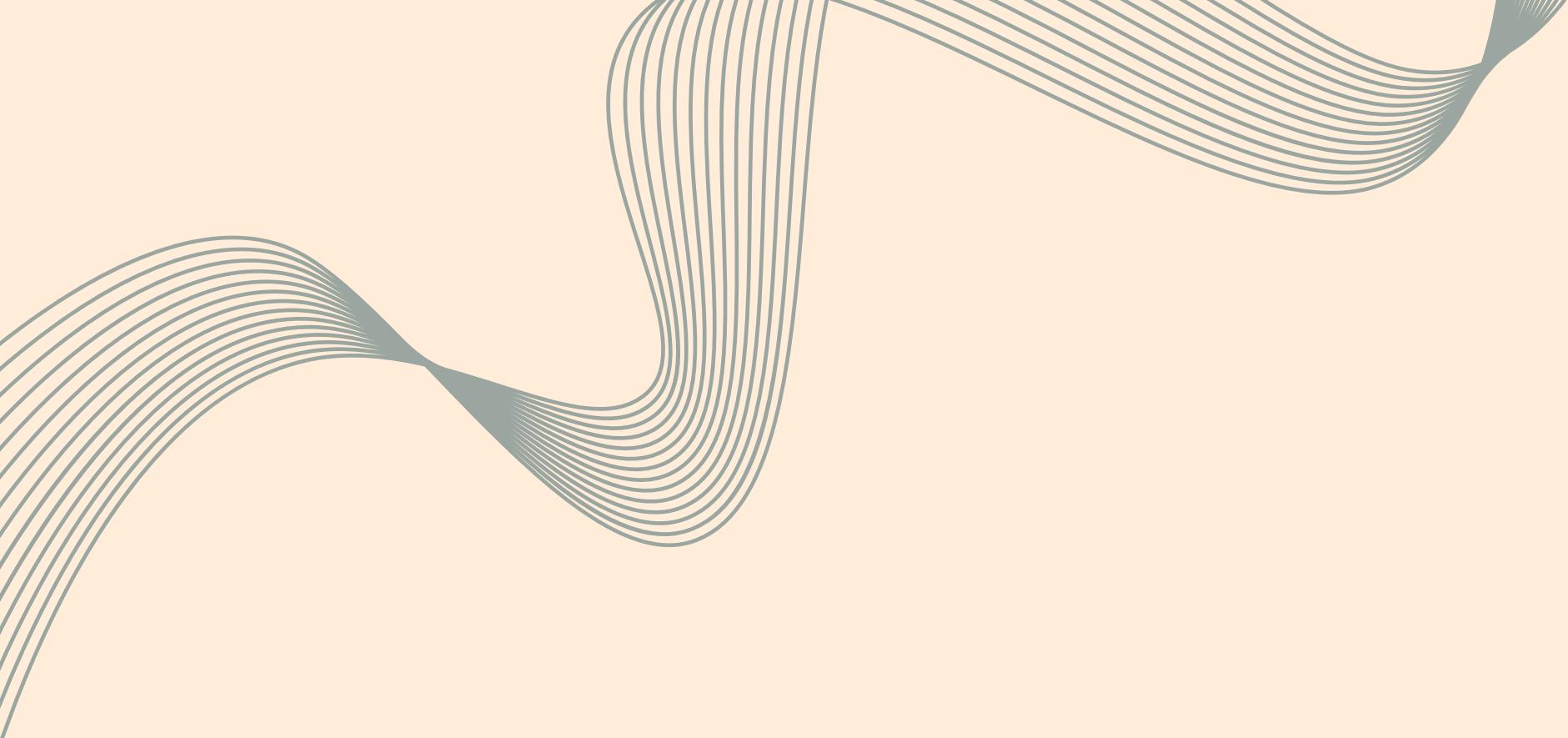


THUAS Data Sciences

Team IMP

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Previous presentation

Remarks and solutions

How to evaluate a model ?

Should the end use be a criteria ?

Write guidelines on how to impute
data from building energy time series



What we did these
last two weeks

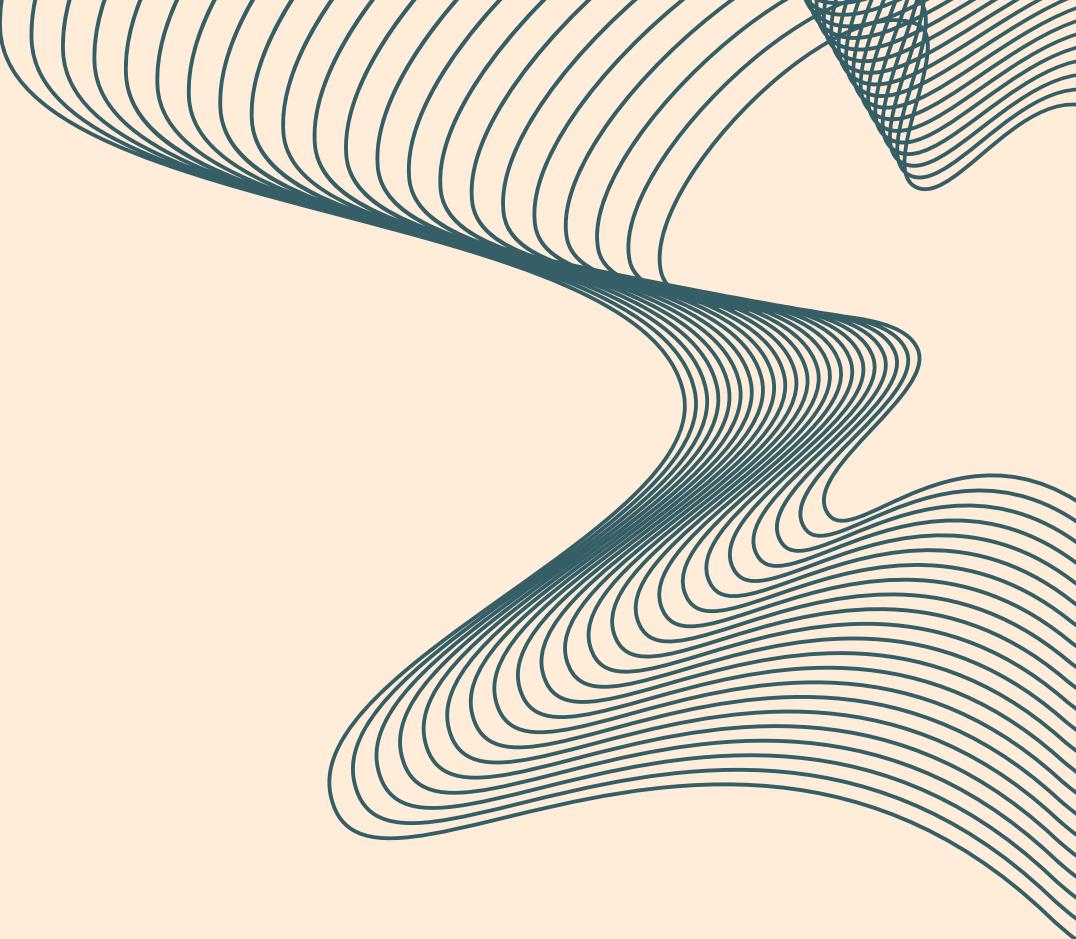
Research proposal

“Which imputation techniques should be applied for data imputation in building energy time series data?”

01 What imputation methods are known for imputing time series data?

02 Which imputation techniques are best suited for what gap sizes?

03 What imputation techniques are best suited for which types of data?



Getting ready for imputation

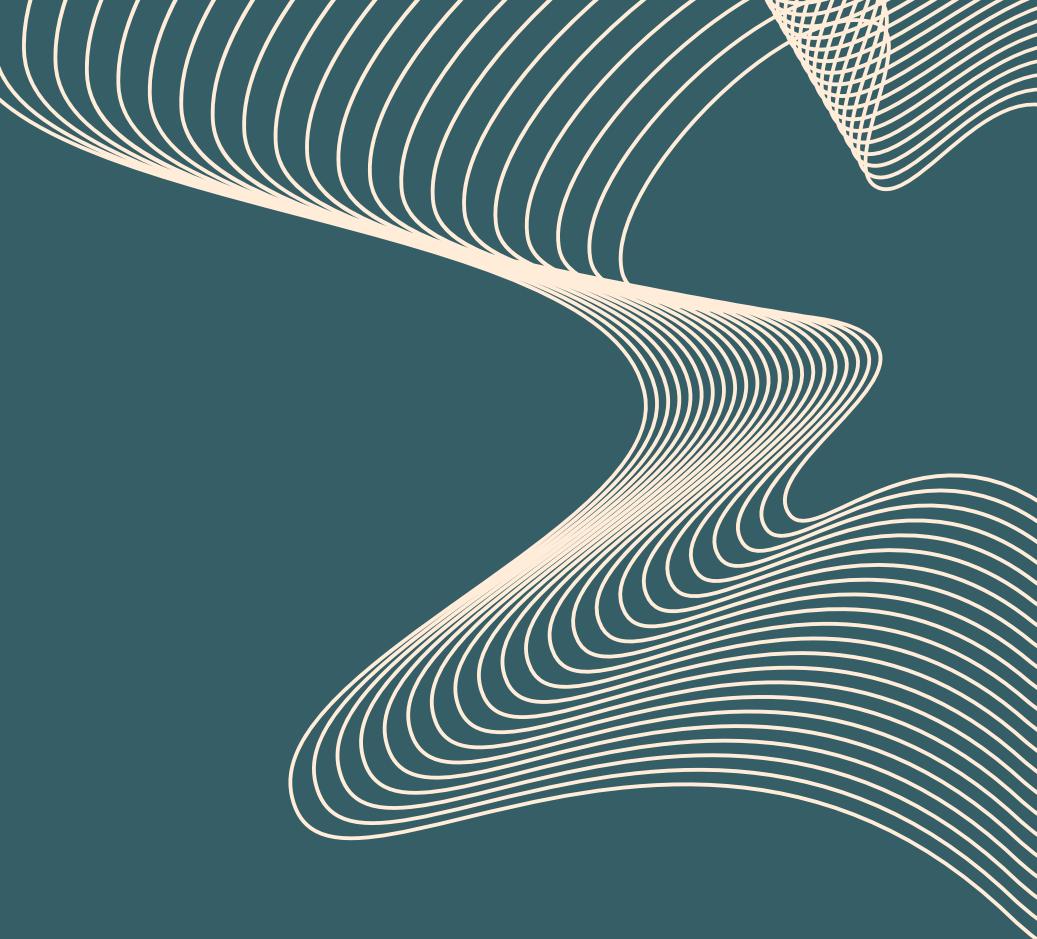
- 01 Find the best suited house data for training

- 02 Classify KNMI and houses data fields by type

- 03 Create gaps in clean data

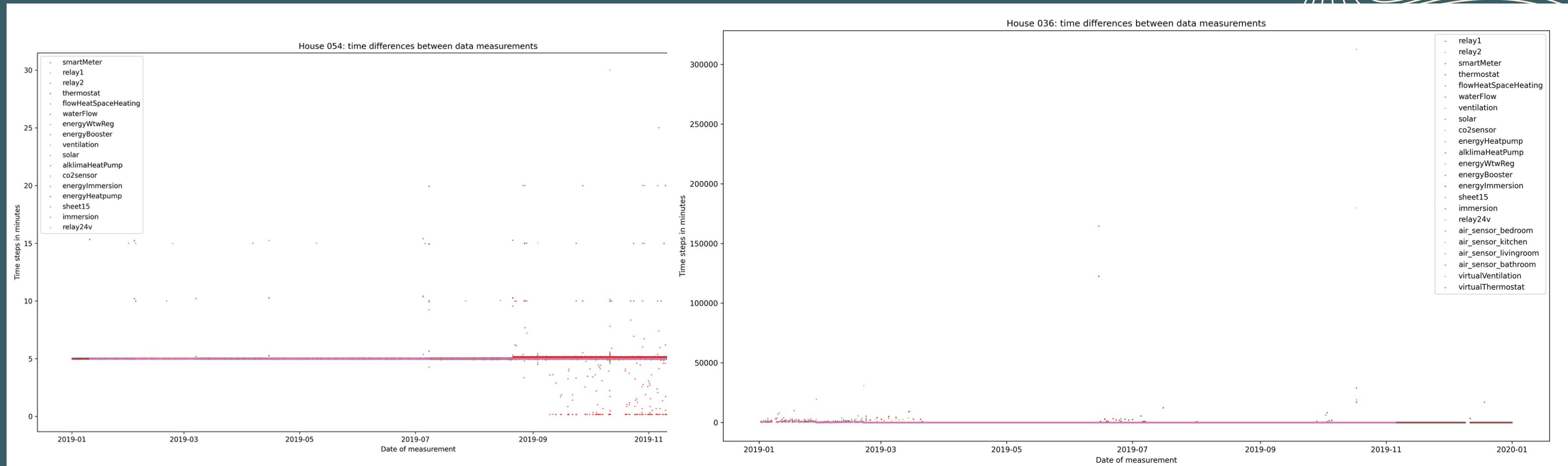
- 04 Visualize data (find correlations ?)

- 05 Determine which imputation methods to use



Getting ready for imputation

Find the best-suited house data for training



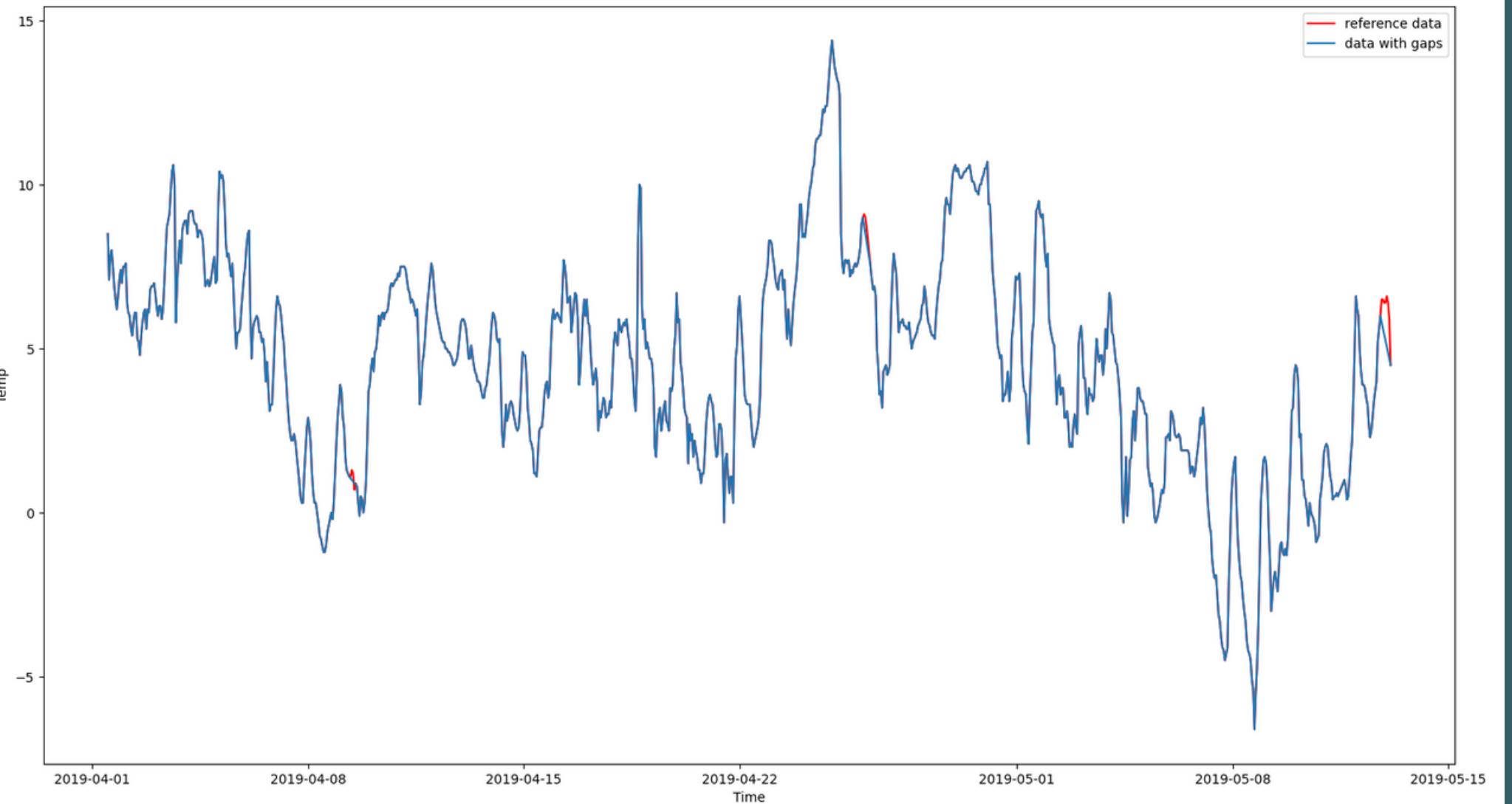
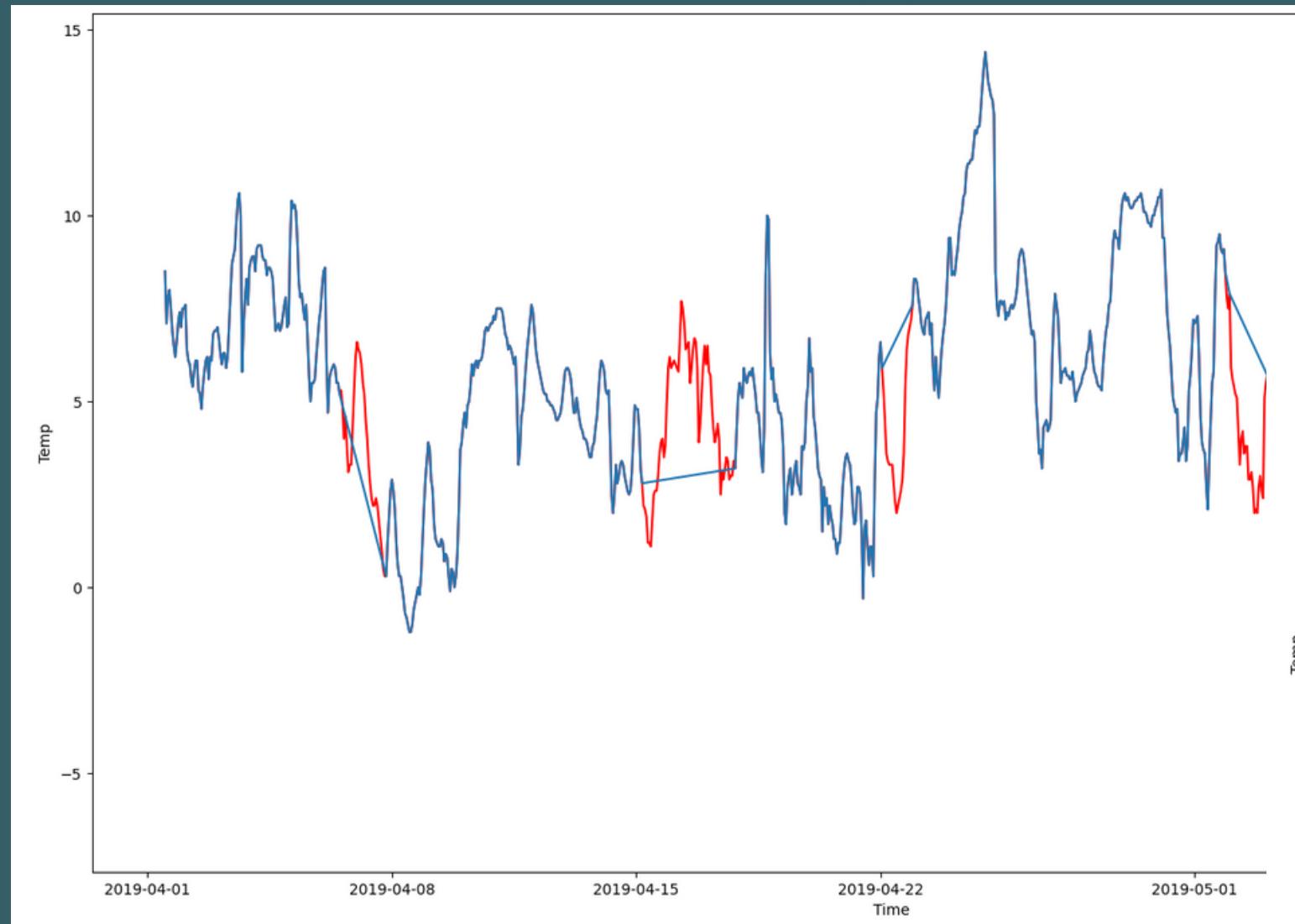
Getting ready for imputation

Classify KNMI and houses data fields by type

	A	B	C	D
1	sheet	column	unit	type
2	waterFlow	ambient_temp	°C	interval
3	waterFlow	min_flow_temp	°C	interval
4	waterFlow	volume_out	m3	ratio
5				
6	flowHeatSpaceHeating	flow_temp	°C	interval
7	flowHeatSpaceHeating	return_temp	°C	interval
8	flowHeatSpaceHeating	total_energyGJ	GJ	ratio
9	flowHeatSpaceHeating	volume_out	m3	ratio
10				
11	energyHeatpump	power	W	ratio
12	energyHeatpump	total_energy_in	kWh	ratio
13				
14	relay1	status	bool	nominal
15				
16	relay2	status	bool	nominal
17				
18	smartMeter	energy_in_low	kWh	ratio

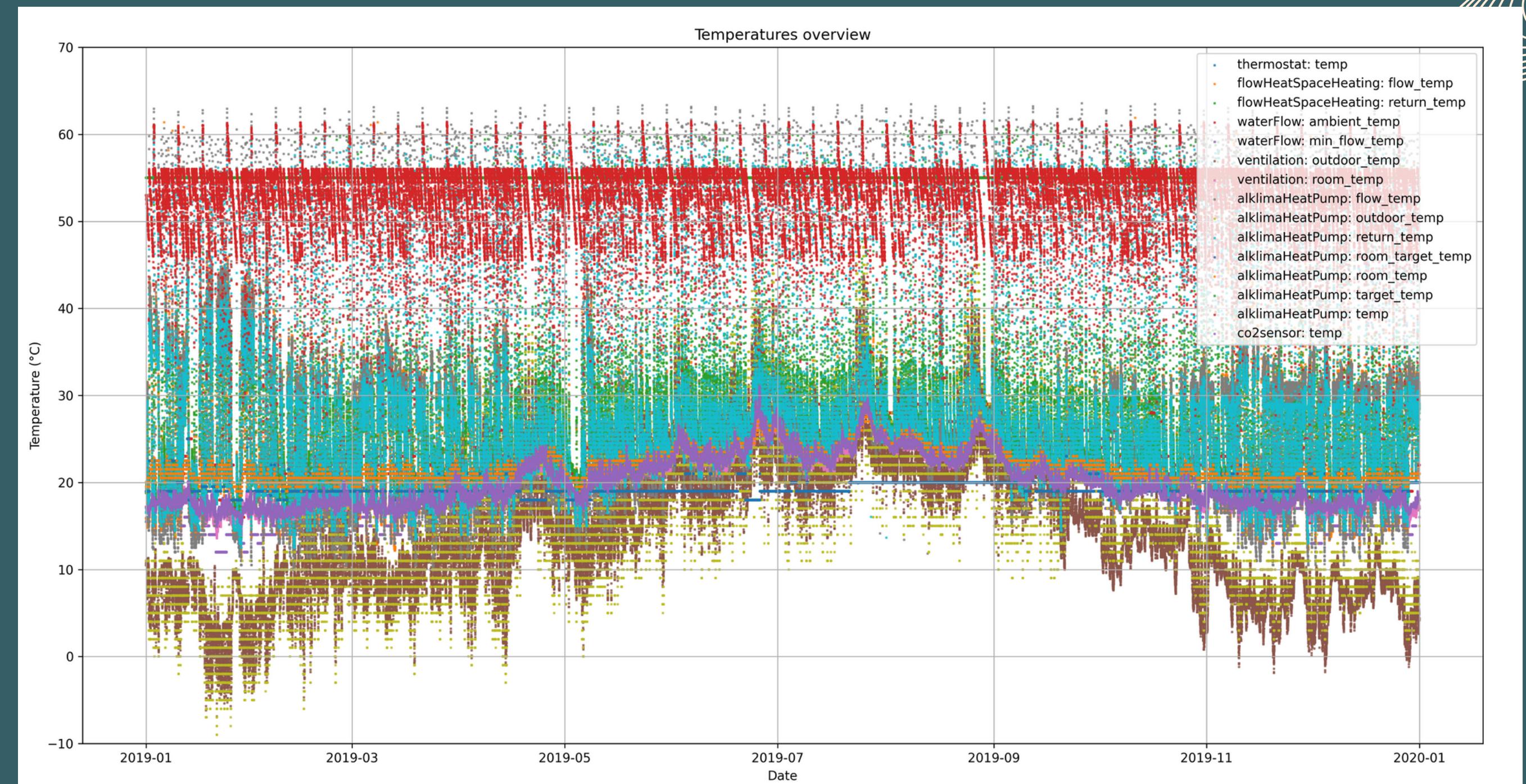
Getting ready for imputation

Create gaps in clean data



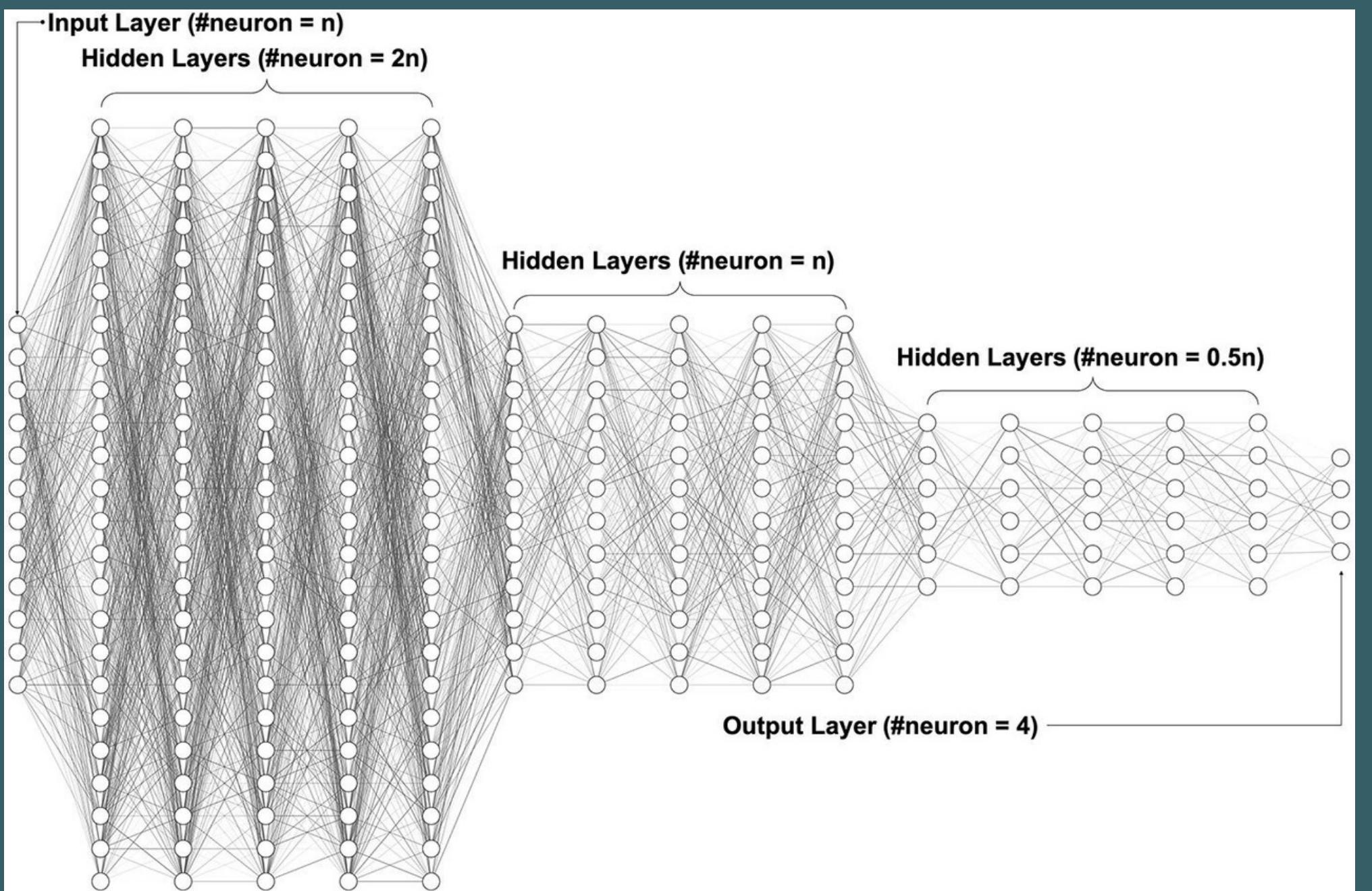
Getting ready for imputation

Visualize data (find correlations ?)

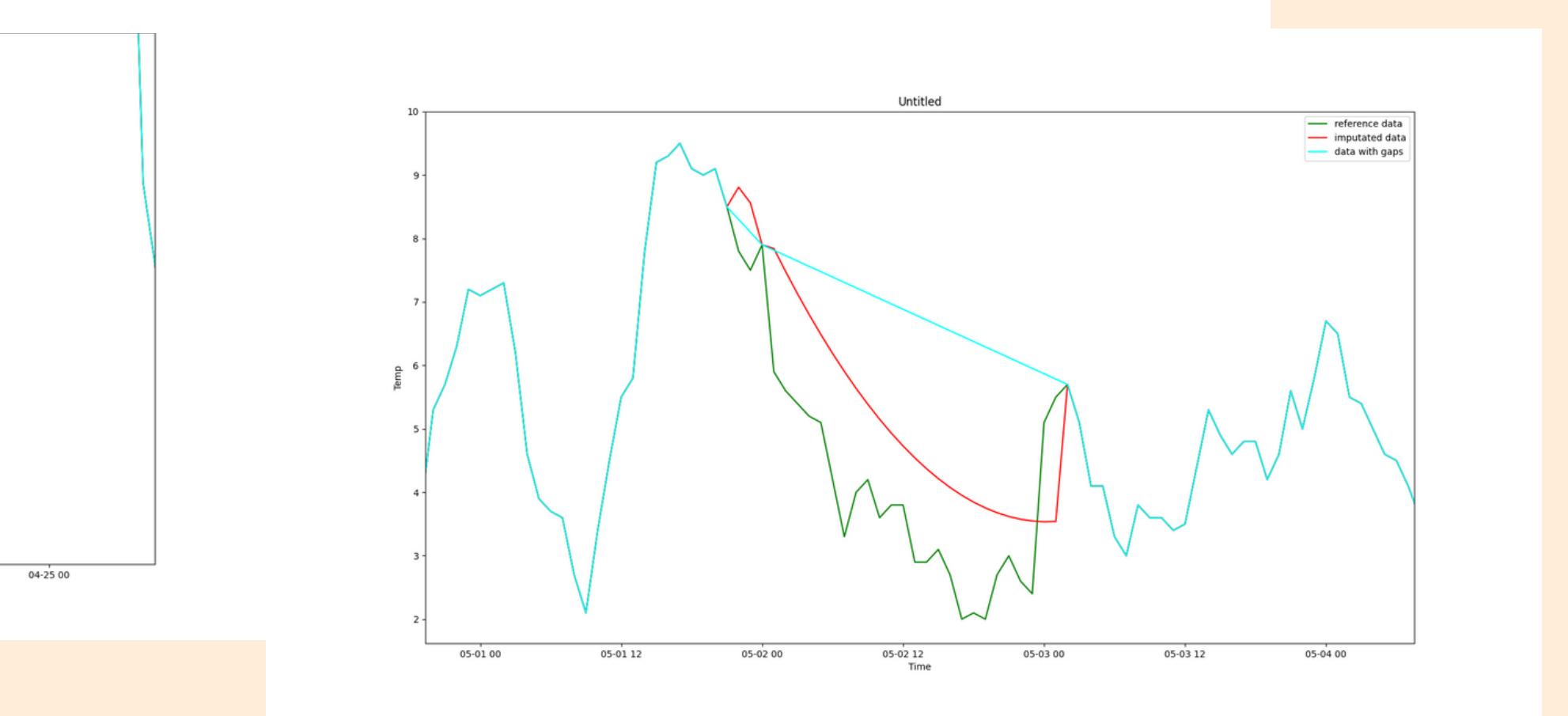


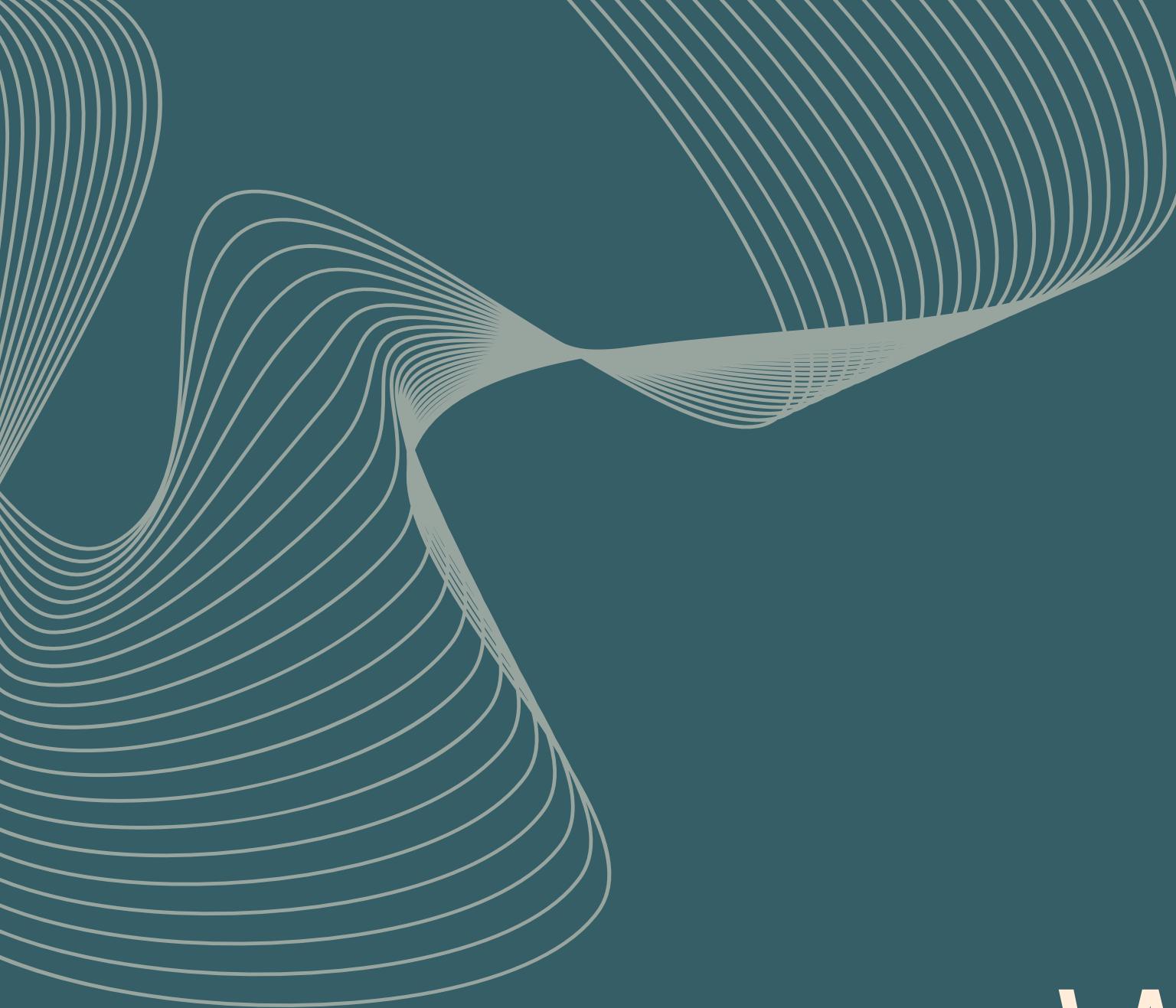
Getting ready for imputation

Determine which imputation methods to use



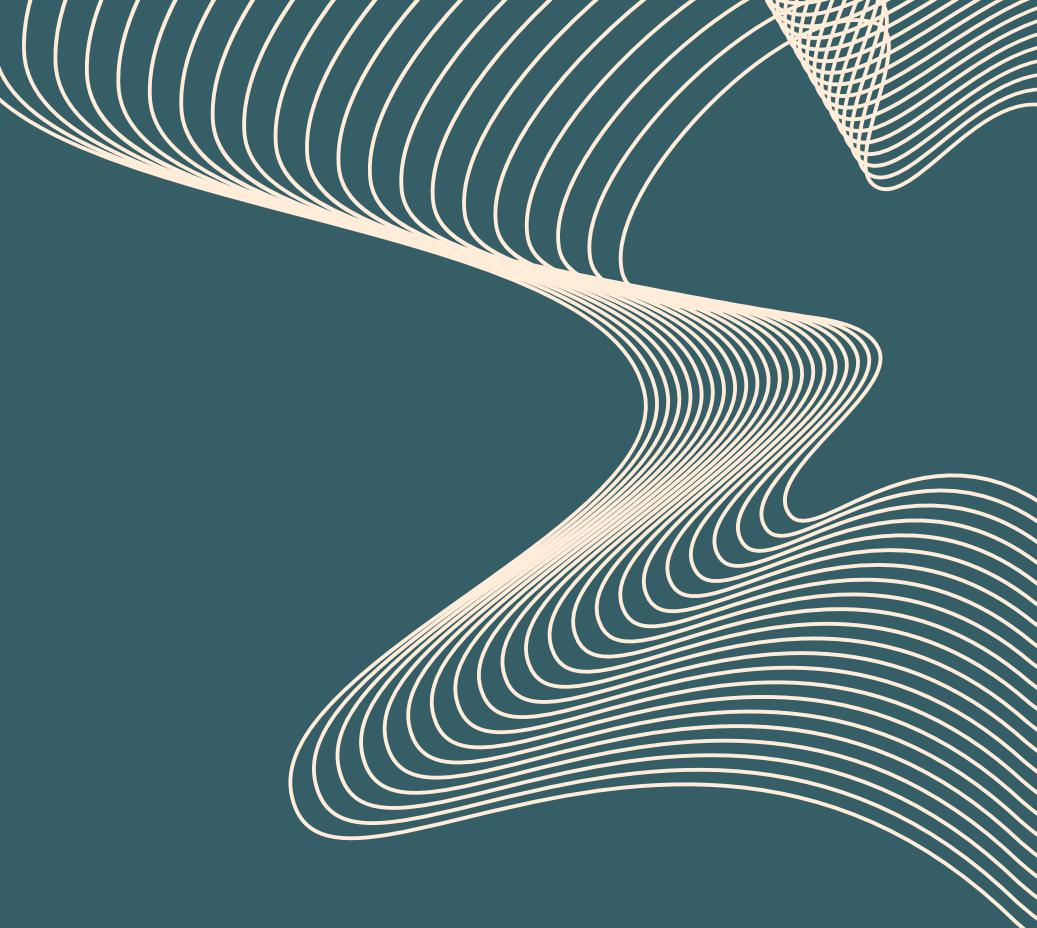
Imputation





What we will do
next

Priorities for the next two weeks

- 
- 01 Finish the research proposal

 - 02 Continue research & experiments with different imputation methods

 - 03 Create an automated pipeline for testing and evaluating imputation methods