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Hackathon

Summer Edition 2023

**ENERGY AWARENESS IN BUILDINGS**

Team MEA  
Alessia Mazzarano  
Evelyn Mazzarano  
Marco Perini

UPLOAD DATA



# ECO-VISUALIZATION



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We improve buildings for the future!

About Matrycs project:

we collect big data to analyze the building energy consumption and develop a ML model to improve buildings and their energy efficiency!

About Eco-Visualization:

Eco-Visualization is a desktop app to read the DataSet and gives as an output an accurate prediction model and tips to save environment and improve technologies!

[read more](#)

UPLOAD DATA

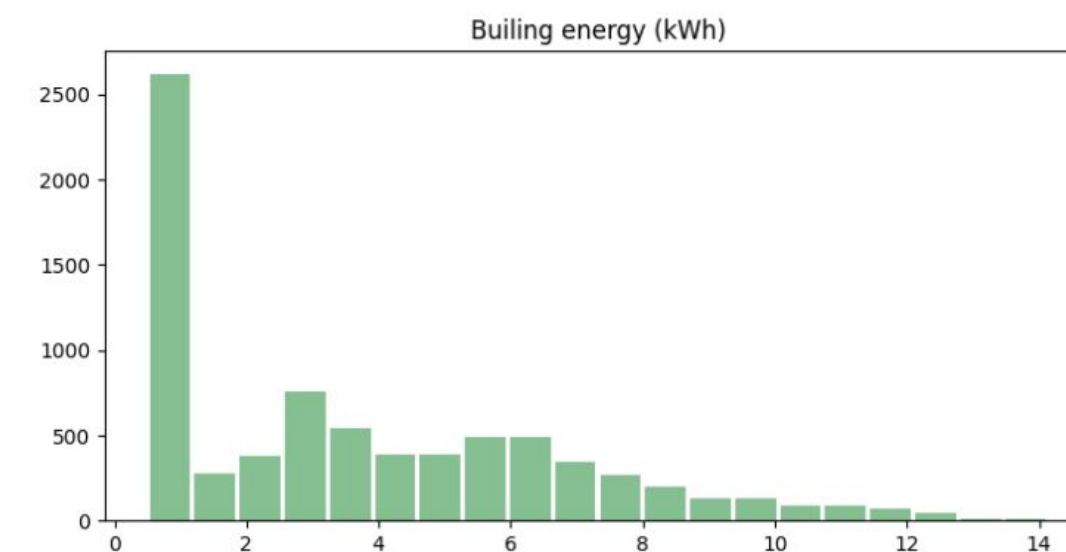
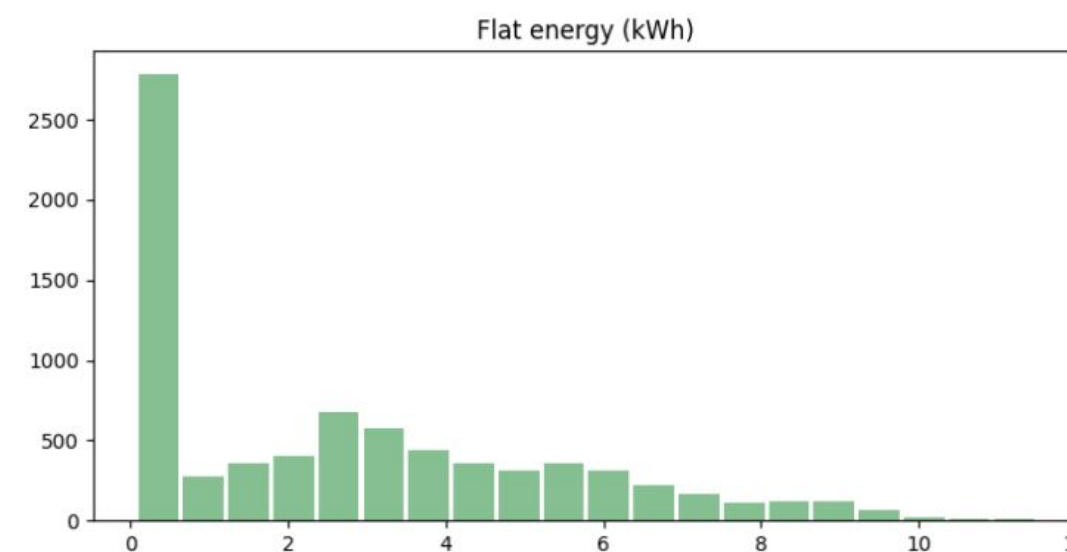
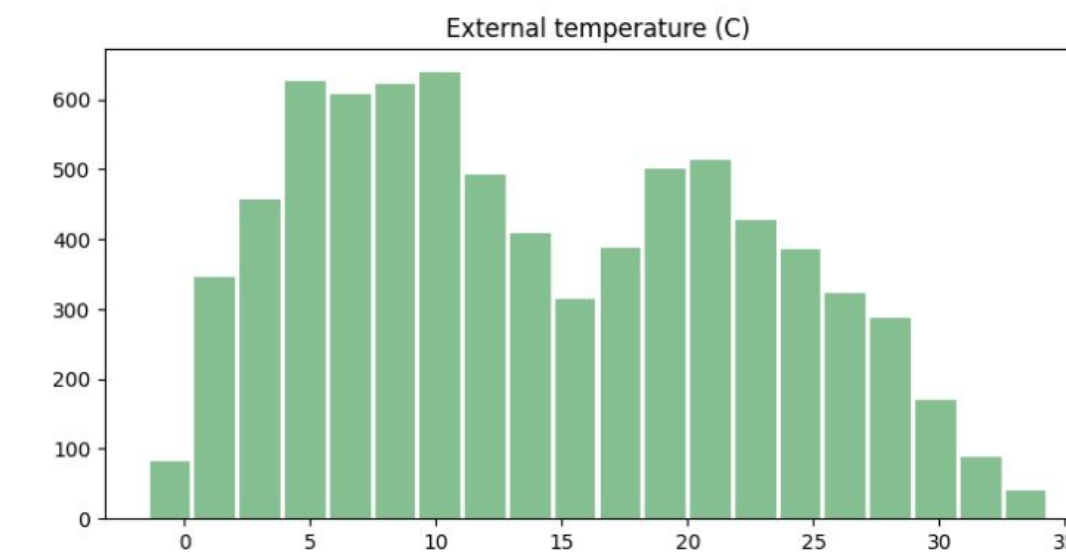
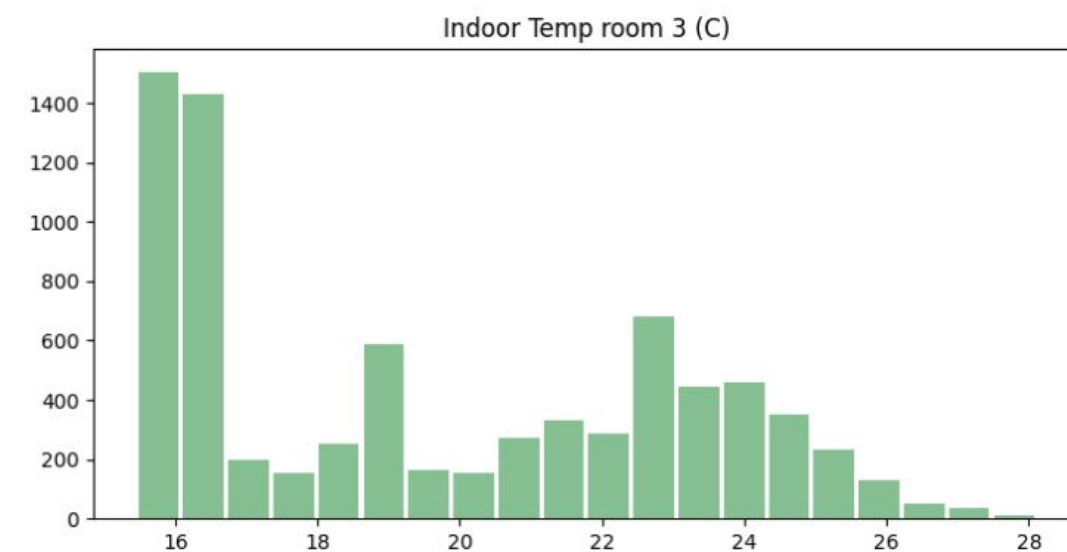
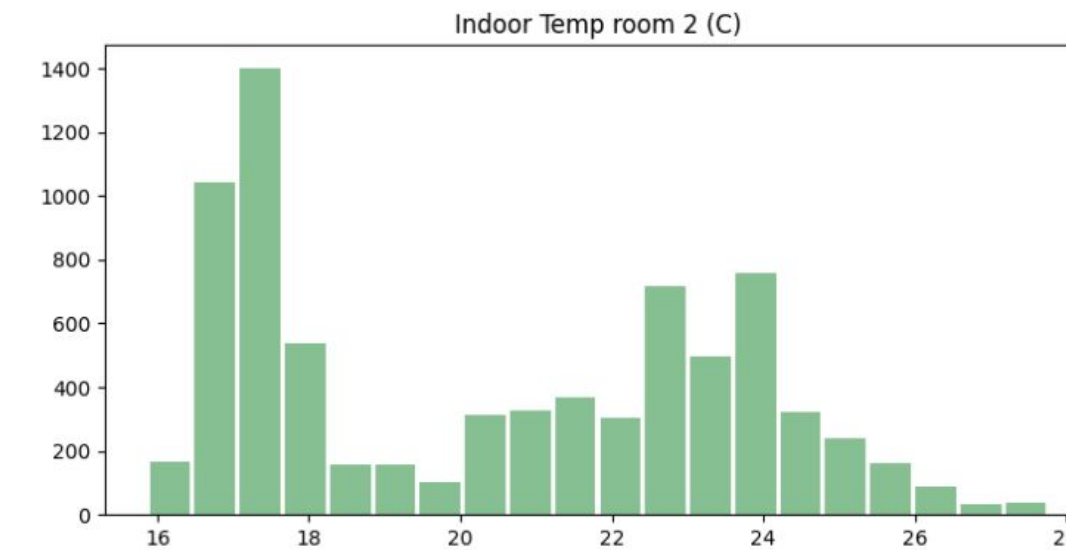
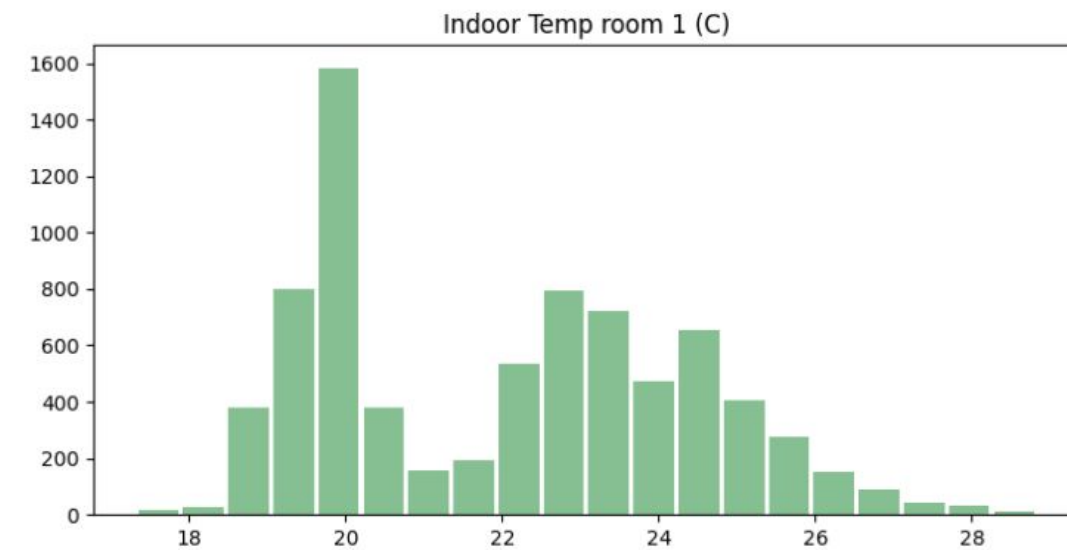
# ECO-VISUALIZATION

## How Eco-Visualization process data:

### Data Cleaning



- Home
- Process Data
- Data Cleaning**
- Statistical Study
- Data Augmentation
- Validation For Forecasting Models

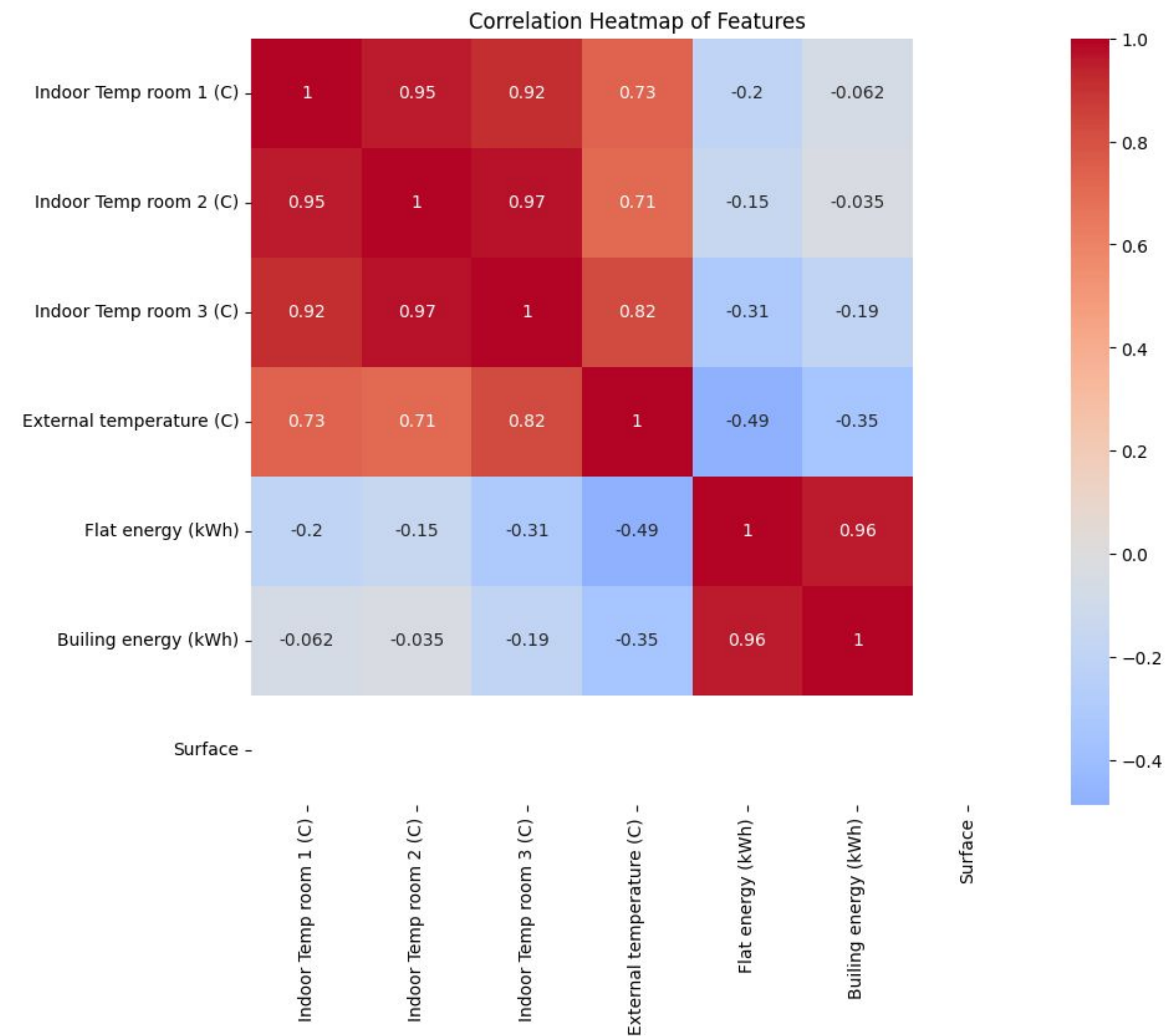


# ECO-VISUALIZATION

## How Eco-Visualization process data: Statistical study



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- Data Augmentation
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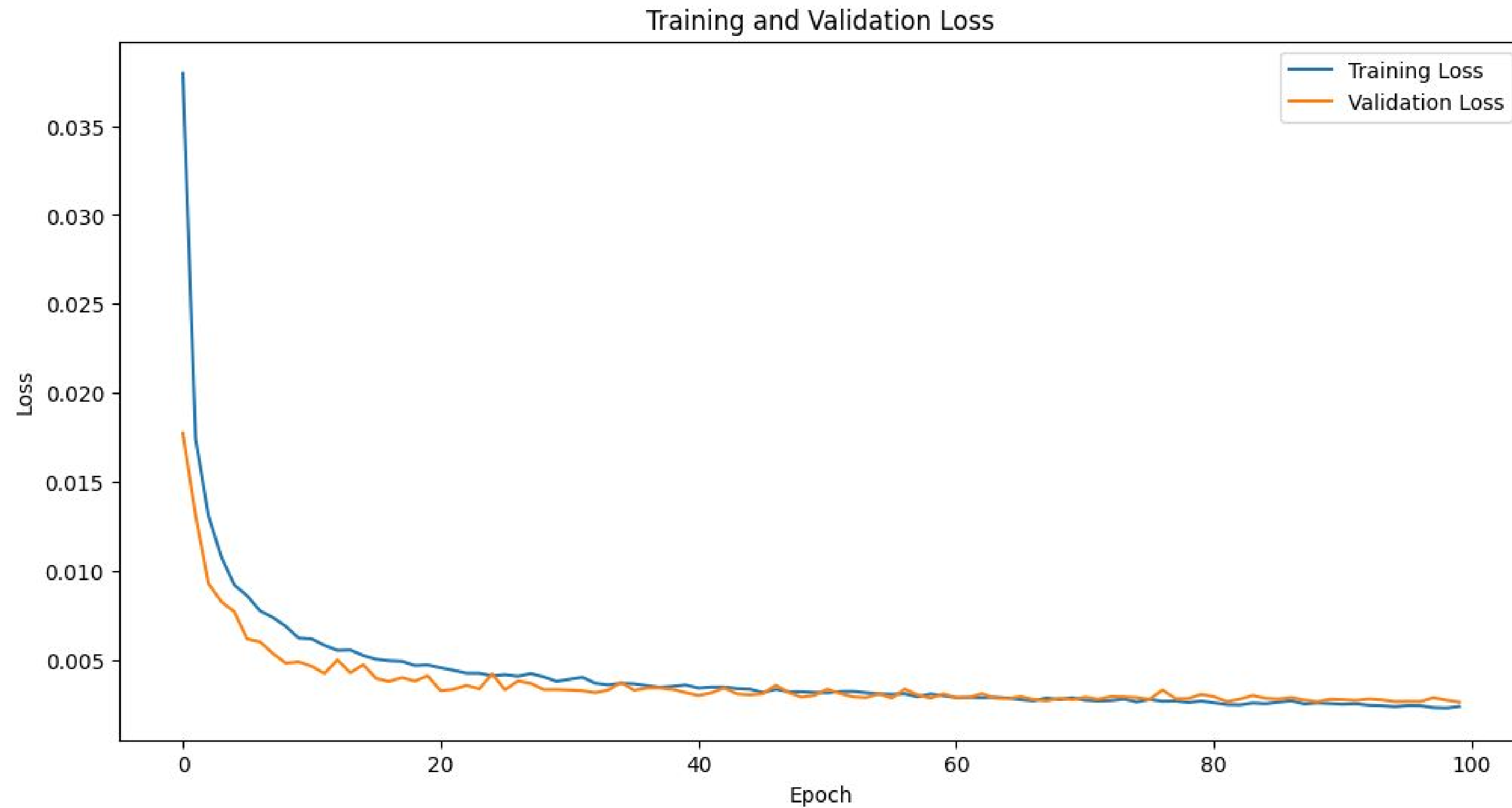
# ECO-VISUALIZATION

## How Eco-Visualization process data:

Validation for forecasting models



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MSE: 0.20

MAPE: 1.22%



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Name of the Data Set	·Energy consumption of a flat and building ·Indoor and outdoor temperature
Note	Energy/Temperature Prediction model
DatiEnergyTemp.csv	
UPLOAD DATA	



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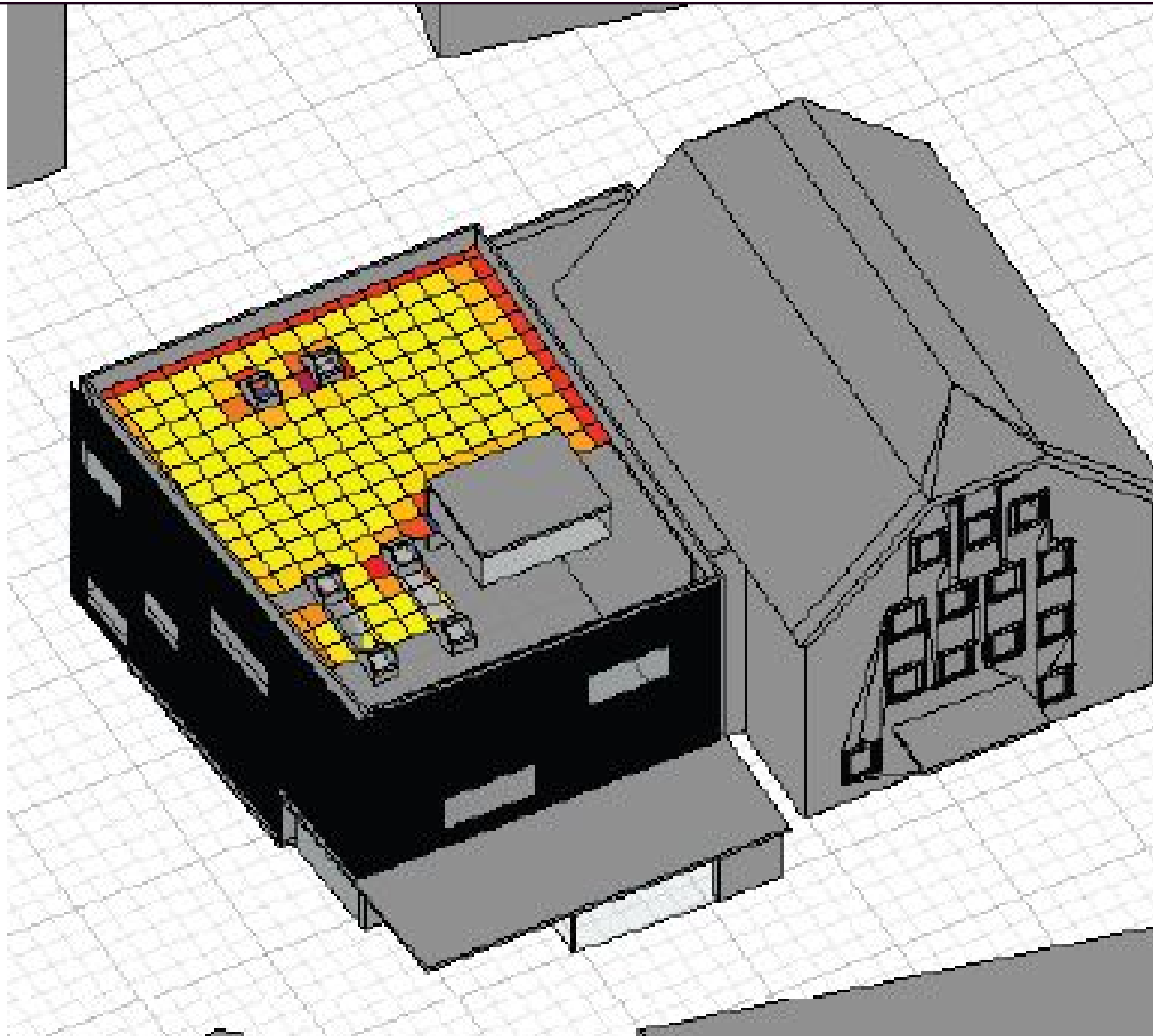
Improving energy performance of buildings with predictive capabilities for energy demand.


↓

Energy production from PV system

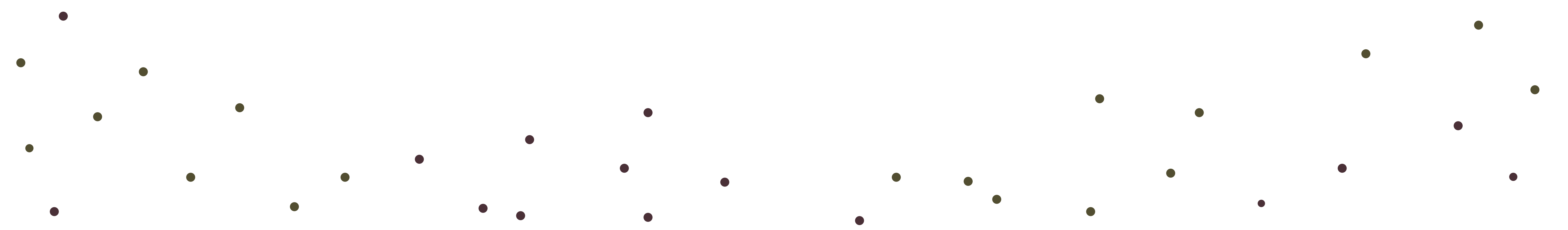
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Based on a prediction model



 [View More](#)

LOADING...





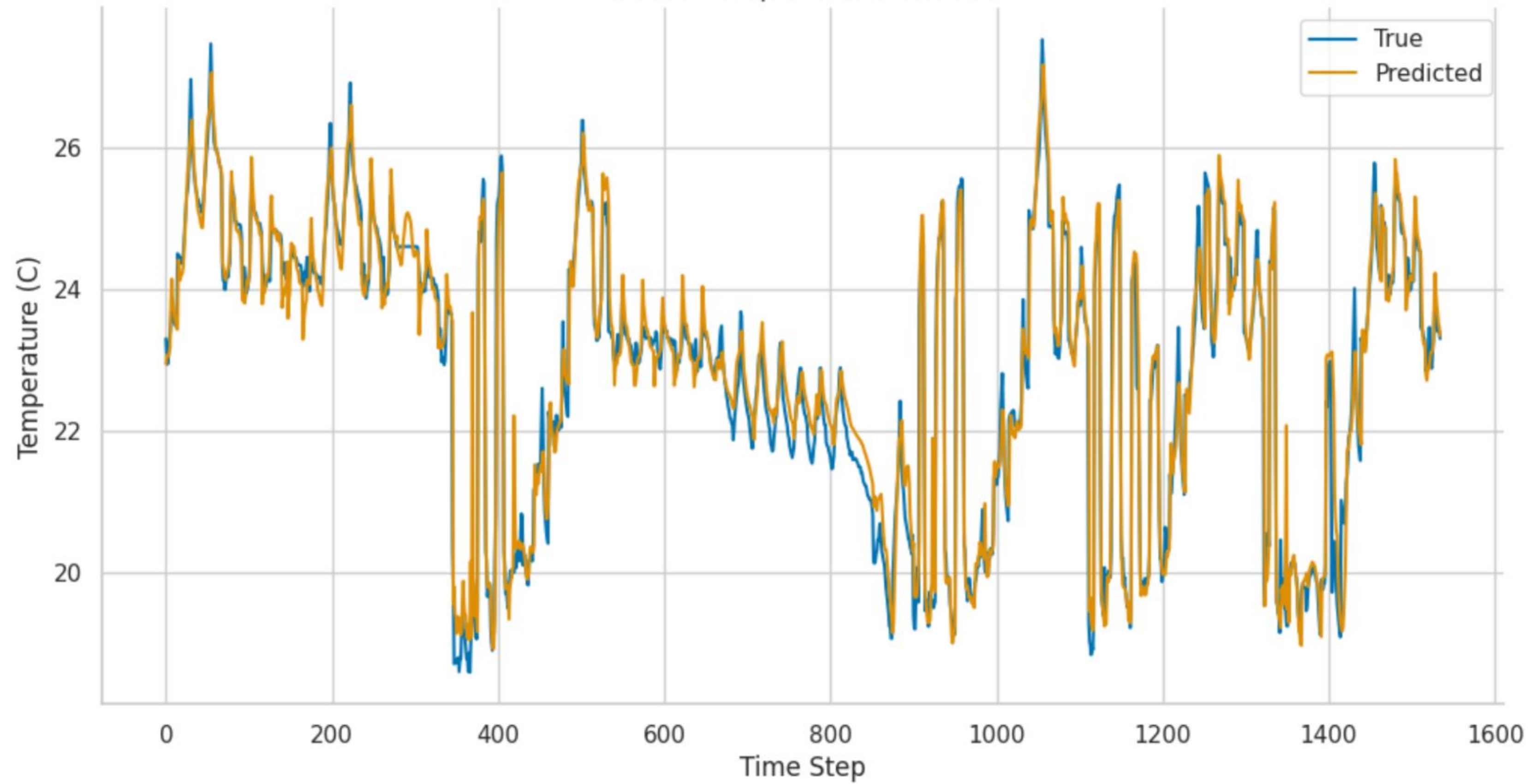
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Observation, 1 Data Set

### Room 1 Temperature Prediction



save





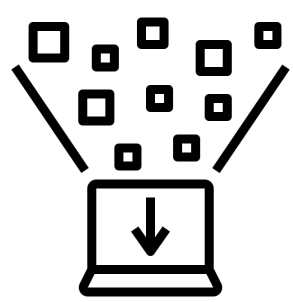
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## GREEN LEASE!

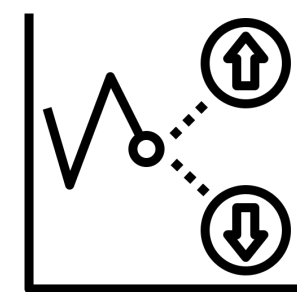
Cooperation between owners and tenants related to energy conservation and environmental considerations in the lease agreement

Contract to match incentives between owners and tenants in energy-saving renovations:

- Distribution rules for contract power reduction effect by operation
- Distribution rules between building owners and tenants on the effect of reducing utility costs by capital investment of building owners
  - Set your own time-specific rates in the building
  - Setting the maximum power usage per tenant



DATA ACQUISITION



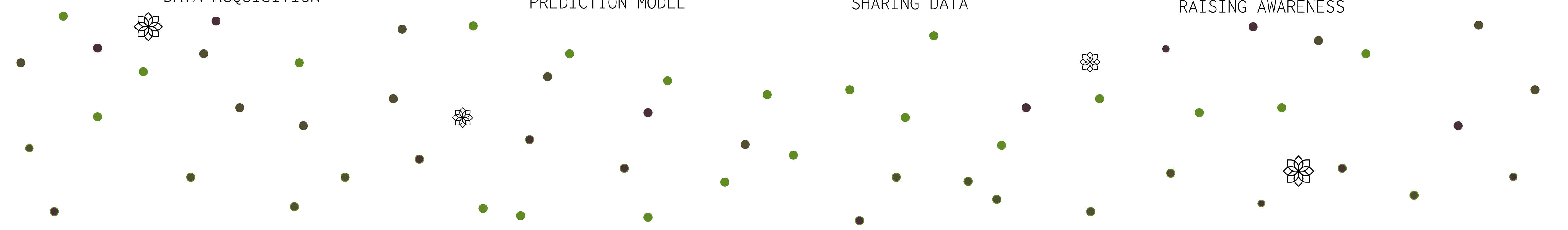
PREDICTION MODEL

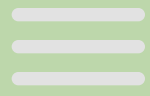


SHARING DATA



RAISING AWARENESS





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Thank you for your attention!