

Net Load Forecasting

What is it?

- ▶ Predicting electricity demand on power grid
- ▶ Considers expected consumption and supply from renewables

Relevant Variables

- ▶ Time of day
- ▶ Day of the week
- ▶ Weather
- ▶ Historical load data

Additional Variables

- ▶ Renewable energy supply
- ▶ Outages or maintenance schedules

Why is it important?

- ▶ Prevent blackouts and brownouts
- ▶ Optimize power generation and transmission
- ▶ Reduce costs and greenhouse gas emissions
- ▶ Support the integration of renewable energy sources

Distributional Forecasts with NNS: Nonlinear Nonparametric Statistics

- ▶ NNS can model complex inter-temporal relationships between variables
- ▶ Can provide probabilistic forecasts, which include uncertainty estimates, allowing for more informed decision making, e.g., for setting reserve capacity