Optimizing Probabilistic Techniques for Net Load Forecasting

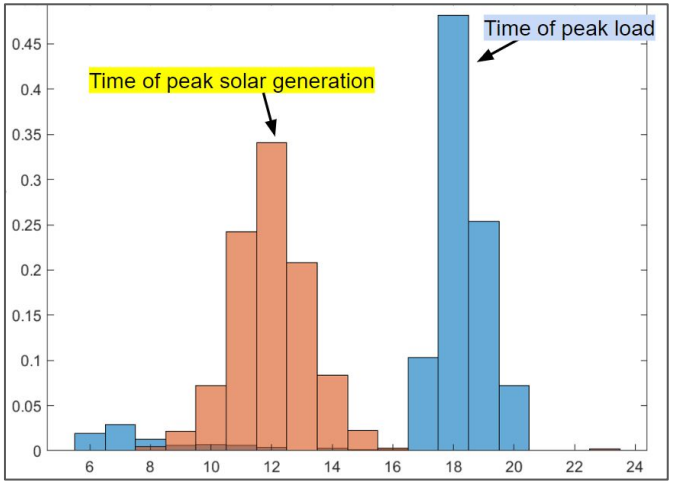
Objective: More accurately predict net load profiles with high solar energy production

Probabilistic Inputs:

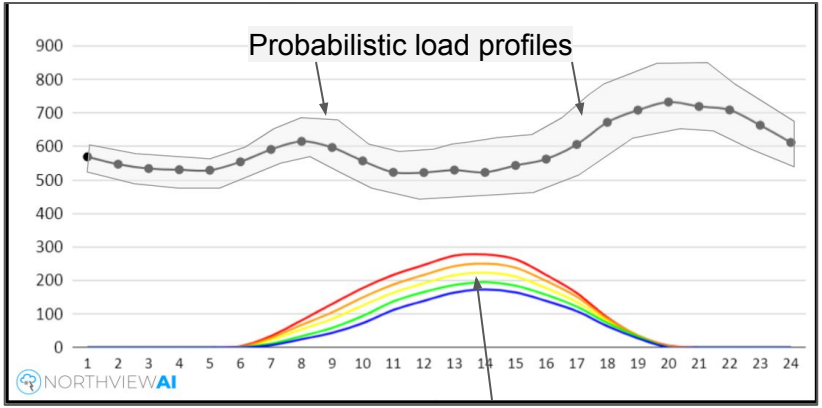
- Solar radiation
- Temperature
- Wind speed
- Snowfall
- Precipitation
- Cloud cover

Methods:

- Virtually modelling solar energy production over load zones across multiple PV solar classes
- Load zone geospatial and population-weighted aggregation
- Data science: machine learning training classifies and self classification



Outputs for Each Load Zone



Probabilistic hourly solar energy production

Decision Support: Enables robust scenario planning to improve grid reliability.