RESEARCH BACKGROUND/DESCRIPTION

• This RET program focus is on applications of ML methods and IoT used in solar energy prediction.
• Data collected from one residential property was used to learn, validate, and test the ML algorithms.
• My background is Applied Math and CS.

RESEARCH OBJECTIVES/PLAN

• Develop the use of ML algorithms in energy
• Predict future solar energy production
• Integrate what I have learned into the classroom

Neural Network (Multi-layer Perceptrons) Forecasting

Multi-layer Perceptrons are shallow neural networks (as opposed to deep learning networks). This means that they usually only have a couple of hidden layers.

These networks generally have the following structure:

INPUT LAYER -> HIDDEN LAYER -> OUTPUT LAYER

RESEARCH RESULTS/REMARKS

• Residential property: learning, validation and testing.
• The linear predictions were somewhat lower than the real numbers.
• The NN polynomial faired better with a less than one Kw difference.
• Further research with increased data bank should result in more reliability.

REFERENCES


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