

Project Name: Inverter Based Hierarchical Machine Learning for Solar Energy Forecasting

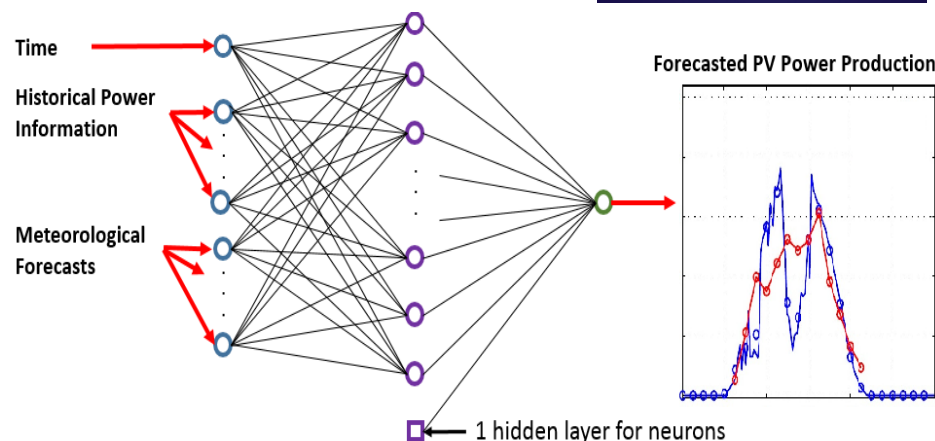
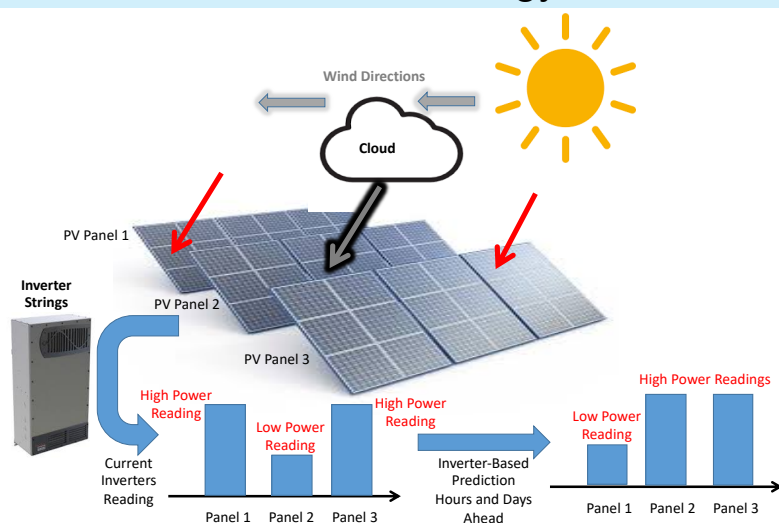


U.S. DEPARTMENT OF ENERGY



Project Team Members

- Leaptran Team:
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- Network Partner: EPIcenter
- Other Partners: CPS Energy & UTSA



Technology Impact

- ▶ Support larger and deeper penetration of renewable energy sources into the reliable and resilient modernized grid.
- ▶ If the forecasting accuracy can improve, say by reducing the relative RMSE by 10-20%, billions of dollars can be saved by integrating renewable energy into existing power system operation.

Technology Summary

- A patented innovative inverter based hierarchical machine learning technology.
- Use exogenous crowd-sourcing weather inputs plus multiple inverter historical data to predict the solar PV production output from intra-day to multiple days ahead of time.