



# QR Solar Forecast Arbiter

Technology used by QuantRisk ([www.quantrisk.com](http://www.quantrisk.com))

QuantRisk AI technology integrates key components to achieve good forecasts results:

1) **Range of AI models** for intraday & day-ahead energy forecasting to choose from:

- Tree-based **Machine Learning** models such as XGboost, Light GBM, etc
- **Deep Learning** models such as Dense and LSTM layers with intermediary connectors suitable for timeseries data, CNN layers for better capturing features. The architecture of a deep model must be adapted for each data set.

2) **Feature engineering** toolbox offers the flexibility to add internal and external timeseries to help the accuracy of the forecasts.

3) **Data processing** toolbox modifies the initial data for improved accuracy: gap filling, quantization, scaling, augmentation, scattering, percent, percentile, etc

4) **Model Fine-tuning** toolbox runs the equivalent of 100 K model runs to identify the best hyper-parameters for the final AI model to be used in production.

4) **Data Visualization & reporting** are key to be able to observe in one dashboard, actual, forecast data with uncertainty bands and error metrics.