

LITERATURE SURVEY:

EXISTING PROBLEM:

There exist a number of technological, environmental and political challenges linked to supplementing existing electricity generation capacities with wind energy. Here , mathematicians and statisticians could make a substantial contribution at the interface of meteorology and decision-making, in connection with the generation of forecasts tailored to the various operational decision problems involved. Indeed, while wind energy may be seen as an environmentally friendly source of energy, full benefits from its usage can only be obtained if one is able to accommodate its variability and limited predictability. Based on a short presentation of its physical basics, the importance of considering wind power generation as a stochastic process is motivated. The conventional moving-average statistical models were proven to be less efficient in forecasting the wind energy, as the wind speed is inherently variable quantity.

PROPOSED SOLUTION:

Our approach was to use a time series forecasting model that would generate point forecasts of wind generation for the upcoming three days, for a wind turbine. We used publicly available historical weather data of a wind plant to train model and learn the changing weather patterns. We also used it to find the correlations among different weather attributes and their effect on energy output.

We have used a VAR (Vector Autoregressive) model, a multivariate time-series model to handle multiple time series of different weather attributes. We have presented our results in an Android application in user-friendly graphs and tables.