

## Ideation Phase

### Literature Survey on The Selected Project & Information Gathering

Date	07 October 2022
Team ID	PNT2022TMID17876
Project Name	<b>Project</b> – Predicting the energy output of wind turbine based on weather condition
Maximum Marks	4 Marks

#### Literature Survey:

S.no	Title	Author	Description	Advantages	Disadvantages
1.	Predicting Linearised Wind Resource Grids using Neural Networks	Helen Sheehan, Elizabeth Traiger	Grid-Kernel Neural Network approach has been developed . WAsP is an Industry standard software for modelling the air flow.	Successfully predicts the orographic speed and direction changes.	GKNN produced poor predictions at 100 m AGL
2.	Renewable Energy Prediction through Machine Learning Algorithms	Luisa Fernand Jimenez Alvarez	Multi layer perceptron with 100 hidden layers, one random state and max iterations of 1000	algorithm was able to portray the most accuracy in MSE and MAE	MLP accuracy resulted insufficient, hence unable to formulate the optimal decision intended.

3.	Energy conversion and management	Inci Okumus	adaptive neuro fuzzy inference system and an Artificial neural network for 1 h ahead wind speed forecasts using statistical prediction methods	For lesser forecast prediction the error will be less	accuracy goes down after 6 hour and MAPE rises upto 15%
4.	Exploiting deep learning for wind power forecasting based on big data analytics	Sana Mujeeb	Wavelet Packet Transform (WPT) - used to decompose the past wind power signals. EDCNN - employed to forecast wind power.	EDCNN is developed to accurately predict the day-ahead hourly wind power	Cannot distinguish between day time and night time to determine the current wind condition
5.	Bayesian CNN-BiLSTM and Based Probabilistic Forecasting Wind Power Outputs	Mingzh	Bayesian CNN method, which allows for a more accurate probabilistic forecasting of wind speed and wind direction.	CNN is less prone to overfitting issues. In a Bayesian Neural Network (BNN), reduce uncertainties modelled process	The accuracy of Seq2Seq model is lower for the forecasted mean Values
6.	Seasonal Analysis and Prediction of Wind Energy Using Random Forests	Yujie Lin, Kruger	Artificial Neural Network - nonlinear modeling and Random Forest performs process on the random subset at each node.	The random forest method produced more accurate models for the same model structure.	Random forest quite slow to create predictions once they are trained