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| **PROJECT GOALS** |

**Team Members:**

* Pradhuman Gupta
* Harshita Malhotra
* Abhinav Jain
* Vinay Bansal

**Expectations**

The result of this Wind Speed should not be interpreted as definitive. Actual longevity is based on many factors, not all of which are captured here. This will give information about enery produced at a particular time based on Wind Speed and Wind Direction.

**Description**

A typical Regression Machine Learning project leverages data to predict insights into the future. This problem statement is aimed at predicting the wind speed given various features.

It makes use of Random Forrest for wind direction and Linear Regression for wind speed.

Focus of this research is on the analysis of behavior of the wind, with an aim to develop a wind prediction system with machine learning which can be used for production prediction of wind power plants. Wind is a free energy source; however it is highly unpredictable-which is a significant problem for integration of large wind power plants into an energy system. Wind data is a time series type of data. Therefore , two models will be considered: one for prediction of wind direction, and one for wind speed.

**Assumptions**

It will provide information about energy produced at a particular time based on wind speed and direction. It will not provide information about particular location.

This Project will show results according to the dataset. It can show some wrong statistics in some extreme conditions.

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| **PROJECTREQUIREMENTS** |

**Functional Requirements:** Prediction tools for Wind Speed.

**Technical Requirements:**

* Python
* Machine Learning
* IBM Cloud
* IBM Watson
* WEB Development

**Software Requirements**

* OS : WINDOWS
* Browser: Google Chrome, Opera
* IDLE (Python 3.8 )
* Jupyter Notebook
* IBM Cloud
* IBM Watson

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| **PROJECT DELIVERABLES** |
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* **Document**– Explaining the project.
* **Project** – A tool to predict the Wind Speed.
* **Repository** – A GitHub repository with the document, project code and all other required files.
* Node RED Flow Diagram.

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| **PROJECT SCHEDULE** |

* **START DATE** : 15-June-2020
* **First Week** - Learn About IBM Services (Cloud and Watson).
* **Second Week** - Making models using python up to the standard required.
* **Third Week** - Making models without using python up to the standard required.
* **Fourth Week** - Refining the projects in order to achieve better results.
* **END DATE** : 15-July-2020