Title

Predicting the energy output of wind turbine based on weather condition

Problem Statement

Wind energy plays a major role in meeting the electricity demand in a sustainable way at a world wide range. Due to the shortcomings of non-renewable energy resources, widespread investigation in the past has been done to decrease any future crisis and also techniques or alternatives to overcome the energy crisis. Renewable energy resources are the solution to it. Wind energy comes under this category and if wisely utilised, can meet our energy demands to maximum extent. Wind which is present all over the atmosphere is a lasting element that can be used as it cannot be depleted. Electrical energy from the wind can be harnessed using the turbines. The turbines present in the windmill convert the mechanical energy into electrical energy. The production of the energy is impacted by the climatic condition present around the farm and since the climate is unpredictable, the energy that is being produced is also unpredictable and it affects the farm operations in system and energy planning. Thus, a precise forecast is imminent to overcome these drawbacks. If the output of the production from turbines is predicted accurately, the providers of the energy can be kept away from expensive overproduction and hence, a web application is proposed which predicts the energy that can be harnessed by taking into consideration various environmental factors and weather conditions.