Power Plant: (Level 2)

Problem Description:

VATA power, a reputed corporation has many power plants throughout the country, It's most recent instalment being A combined-cycle power plant that uses both gas and a steam turbine together to produce up to 50 percent more electricity from the same fuel than a traditional simple-cycle plant. The waste heat from the gas turbine is routed to the nearby steam turbine, which generates extra power. it has recently received an official notification from ICES(International council of Energy sustainability) to submit a report on the combined cycle power plant. You have been appointed the chief of committee responsible for drafting the report, your task is to create a Machine Learning Model to predict the net hourly electrical energy output (PE) of the plant. Your dataset has data over 6 years (2006-2011) when the power plant was set to work with a full load and contains the following important features necessary to predict the outcome

Attributes:

- **Temp** - Ambient Temperature
- **Pressure** - Ambient Pressure
- **Vacuum** - Exhaust Vacuum
- **Humidity** - Relative Humidity
- **TempDiff** - temperature difference
- **PressureDiff** - pressure difference
- **Energy** - Net hourly electrical energy output (PE) of the plant
- **RHSquared** – Squared relative humidity
- **Testing Type** - Phase of Generation
- **Place** – Place of Generation
- **PowerPerFuel** - Calculated power output per unit of fuel
- **TempVacuum** - interaction term between ambient temperature and exhaust vacuum