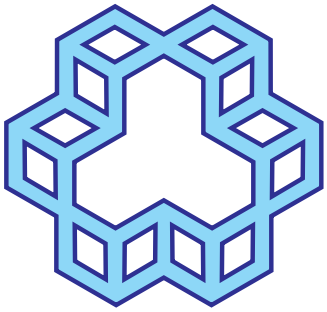

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# Machine Learning Projects
# (Project 4)

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## Electricity Price

Suppose you work in an industrial company and your business relies on a number of industrial machines that consume a lot of electricity. The company provides you a dataset of historical information about the actual cost of electricity consumed by these machines. The information provided to you is as follows:

| **Columns** | **Description** |
|---|---|
| Date Time | Date and time of the record |
| Holiday | name of the holiday if the day is a national holiday |
| Holiday Flag | contains 1 if it's a bank holiday otherwise 0 |
| Day of Week | contains values between $0-6$ where 0 is Monday |
| Week of Year | week of the year |
| Day | Day of the date |
| Month | Month of the date |
| Year | Year of the date |
| Period of Day | half-hour period of the day |
| Forcast Wind Production | forecasted wind production |
| System Load EA | forecasted national load |
| SMPEA | forecasted price |
| ORK Temperature | actual temperature measured |
| ORK Windspeed | actual windspeed measured |
| CO2 Intensity | actual CO2 intensity for the electricity produced |
| Actual Wind Production | actual wind energy production |
| System Load EP2 | actual national system load |
| SMPEP2 | the actual price of the electricity consumed |

In this project, you must use this data and build a model that predicts the electricity consumption of machines (SMPEP2) using machine learning algorithms. You can download the dataset needed to answer this question from this link.[1]

**Note:** The given data is raw. To answer this question, you must first preprocess the data using the Pandas package.

[1] To save the dataset, you need to press Ctrl+S on the opened page and save the .csv file

## Important Points

Be sure to

- Leave appropriate comments for different parts of your code.
- Completely explain about the algorithm(s) you use to answer this question.
- Measure your model performance using model evaluation metrics and interpret the obtained result(s).

**A part of your score will be allocated to these items.**

***** You should write all the steps of your project in the **Jupyter notebook** and upload it as a file with the **.ipynb** extension on the vc site.