ME 793 - Assignment 4

Department of Mechanical Engineering, IIT Bombay

Spring 2022

Due Date: 11:59 PM, Feb 16, 2021, Marks 10

Assignment Date: 9:30 AM, Monday, Feb 07, 2022

Objective and Instructions

1. The objective is to understand the application of Linear Regression and Multilinear Regression and Gradient Descent.
2. You will use the data that you created and used for Assignment 3.
3. This assignment needs to be performed using Jupyter Notebook or Google Colab Notebook or only.
4. Submit Jupyter Notebook, Jupyter Notebook pdf and your data file to Moodle.

Q 1. Make sure that you are using the data that you created for Assignment 3. This table must have 7 columns.

- Develop a Linear Regression based model where electronegativity is X and thermal conductivity is Y.
- Develop a MultiLinear Regression based model where electronegativity is X_1 and density is X_2 and thermal conductivity is Y.
- Develop a Gradient Descent based model where electronegativity is X_1 and density is X_2 and thermal conductivity is Y.

Your Jupyter Notebook must show various decorated plots as appropriate for clearly understanding the problem setup, methodology and model outcome.

You are welcome to use any existing function or library if you are aware of.

−end−