

# ML Lab (CS360)

## Assignment 5

1. Implement the linear regression using the Gradient Descent Algorithm (batch mode) using the given data splittings:

Dataset: Boston house pricing dataset.

(Hint to load the dataset

```
from sklearn import datasets
boston = datasets.load_boston(return_X_y=False))
```

- a) train(30%), validation (10%), and test(60%)

- i) Normalize the dataset and train the linear regression model using inbuilt code

```
"from sklearn.linear_model import LinearRegression"
```

- a) Plot the validation and train accuracy after each epoch
- b) Finally report the train and test accuracy

- ii) Train the inbuilt linear regression model without normalizing the data

```
"from sklearn.linear_model import LinearRegression"
```

- a) Plot the validation and train accuracy after each epoch
- b) Finally report the train and test accuracy

**Please do not copy anyone's code. Try to learn coding.**

Thank you  
Happy learning