一、数据采集

数据来源于 kaggle 数据集的 Boston Housing，网址为
https://www.kaggle.com/datasets/fedesoriano/the-boston-houseprice-data

二、函数定义

自变量 X 为 13 维，因变量 y(MEDV)为 1 维，其具体含义如下

Attribute Information

Input features in order:

1) CRIM: per capita crime rate by town

2) ZN: proportion of residential land zoned for lots over 25,000 sq.ft.

3) INDUS: proportion of non-retail business acres per town

4) CHAS: Charles River dummy variable (1 if tract bounds river; 0 otherwise)

5) NOX: nitric oxides concentration (parts per 10 million) [parts/10M]

6) RM: average number of rooms per dwelling

7) AGE: proportion of owner-occupied units built prior to 1940

8) DIS: weighted distances to five Boston employment centres

9) RAD: index of accessibility to radial highways

10) TAX: full-value property-tax rate per $10,000 [$/10k]

11) PTRATIO: pupil-teacher ratio by town

12) B: The result of the equation $B=1000(Bk - 0.63)^2$ where Bk is the proportion of blacks by town

13) LSTAT: % lower status of the population

Output variable:

1) MEDV: Median value of owner-occupied homes in $1000's [k$]

三、模型描述

一个由 13 个单元的输入层，4 个单元的隐藏层，1 个单元的输出层组成的基于 relu 的两层神经网络

四、模型训练

采用 adam 优化方法，均方差损失函数，epochs 设为 150，batch_size 设为 64

五、拟合效果