

人工智能之机器学习

晚自习

上海育创网络科技有限公司

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课程要求

- 课上课下 “九字” 真言
 - 认真听，**善摘录，勤思考**
 - **多温故，乐实践**，再发散
- 四不原则
 - **不懒散惰性，不迟到早退**
 - **不请假旷课，不拖延作业**
- 一点注意事项
 - 违反 “四不原则”，不推荐就业

回归算法综合案例(二): 波士顿房屋租赁价格预测(作业)

- 基于波士顿房屋租赁数据进行房屋租赁价格预测模型构建, 分别使用Lasso回归、Ridge回两种回归算法构建模型; 并分别构建2/3/4阶算法中的最优算法(参数), 并比较这两种回归算法的效果; 另外使用lasso回归算法做特征选择(选择特征参数不为0的属性数据作为最终的特征属性, 用这个选择出来的特征属性矩阵做Ridge回归)
- 数据下载url: <http://archive.ics.uci.edu/ml/datasets/Housing>(现在没法下载啦)

Attribute Information:

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)
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
11. PTRATIO: pupil-teacher ratio by town
12. B: $1000(B_k - 0.63)^2$ where B_k is the proportion of blacks by town
13. LSTAT: % lower status of the population
14. MEDV: Median value of owner-occupied homes in \$1000's

0.31533	0.00	6.200	0	0.5040	8.2660	78.30	2.8944	8	307.0	17.40	385.05	4.14	44.80
0.52693	0.00	6.200	0	0.5040	8.7250	83.00	2.8944	8	307.0	17.40	382.00	4.63	50.00
0.38214	0.00	6.200	0	0.5040	8.0400	86.50	3.2157	8	307.0	17.40	387.38	3.13	37.60
0.41238	0.00	6.200	0	0.5040	7.1630	79.90	3.2157	8	307.0	17.40	372.08	6.36	31.60
0.29819	0.00	6.200	0	0.5040	7.6860	17.00	3.3751	8	307.0	17.40	377.51	3.92	46.70
0.44178	0.00	6.200	0	0.5040	6.5520	21.40	3.3751	8	307.0	17.40	380.34	3.76	31.50
0.53700	0.00	6.200	0	0.5040	5.9810	68.10	3.6715	8	307.0	17.40	378.35	11.65	24.30
0.46296	0.00	6.200	0	0.5040	7.4120	76.90	3.6715	8	307.0	17.40	376.14	5.25	31.70
0.57529	0.00	6.200	0	0.5070	8.3370	73.30	3.8384	8	307.0	17.40	385.91	2.47	41.70
0.33147	0.00	6.200	0	0.5070	8.2470	70.40	3.6519	8	307.0	17.40	378.95	3.95	48.30
0.44791	0.00	6.200	1	0.5070	6.7260	66.50	3.6519	8	307.0	17.40	360.20	8.05	29.00
0.33045	0.00	6.200	0	0.5070	6.0860	61.50	3.6519	8	307.0	17.40	376.75	10.88	24.00
0.52058	0.00	6.200	1	0.5070	6.6310	76.50	4.1480	8	307.0	17.40	388.45	9.54	25.10
0.51183	0.00	6.200	0	0.5070	7.3580	71.60	4.1480	8	307.0	17.40	390.07	4.73	31.50
0.08244	30.00	4.930	0	0.4280	6.4810	18.50	6.1899	6	300.0	16.60	379.41	6.36	23.70
0.09252	30.00	4.930	0	0.4280	6.6060	42.20	6.1899	6	300.0	16.60	383.78	7.37	23.30
0.11220	20.00	4.020	0	0.4280	6.9070	54.20	6.2261	6	200.0	16.60	201.25	11.20	22.00

