

# 分类

## 购房预测分类任务

`data.csv` 数据集包含三列共400条数据，其中第一列 `Age` 表示用户年龄，第二列 `EstimatedSalary` 表示用户估计的薪水，第三列 `Purchased` 表示用户是否购房。请根据用户的年龄以及估计的薪水，利用逻辑回归算法和感知机算法预测用户是否购房，并画出数据可视化图、loss曲线图，计算模型收敛后的分类准确率。

## 提示

- 1. 最后提交的代码只需包含性能最好的实现方法和参数设置. 只需提交一个代码文件, 请不要提交其他文件.
- 2. 本次作业可以使用 `numpy` 库、`matplotlib` 库以及python标准库.
- 3. 数据集可以在Github上下载，或者如下所示。

Age	EstimatedSalary	Purchased
19	19000	0
35	20000	0
26	43000	0
27	57000	0
19	76000	0
27	58000	0
27	84000	0
32	150000	1
25	33000	0
35	65000	0
26	80000	0
26	52000	0
20	86000	0
32	18000	0
18	82000	0
29	80000	0
47	25000	1
45	26000	1

Age	EstimatedSalary	Purchased
46	28000	1
48	29000	1
45	22000	1
47	49000	1
48	41000	1
45	22000	1
46	23000	1
47	20000	1
49	28000	1
47	30000	1
29	43000	0
31	18000	0
31	74000	0
27	137000	1
21	16000	0
28	44000	0
27	90000	0
35	27000	0
33	28000	0
30	49000	0
26	72000	0
27	31000	0
27	17000	0
33	51000	0
35	108000	0
30	15000	0
28	84000	0
23	20000	0
25	79000	0
27	54000	0

Age	EstimatedSalary	Purchased
30	135000	1
31	89000	0
24	32000	0
18	44000	0
29	83000	0
35	23000	0
27	58000	0
24	55000	0
23	48000	0
28	79000	0
22	18000	0
32	117000	0
27	20000	0
25	87000	0
23	66000	0
32	120000	1
59	83000	0
24	58000	0
24	19000	0
23	82000	0
22	63000	0
31	68000	0
25	80000	0
24	27000	0
20	23000	0
33	113000	0
32	18000	0
34	112000	1
18	52000	0
22	27000	0

Age	EstimatedSalary	Purchased
28	87000	0
26	17000	0
30	80000	0
39	42000	0
20	49000	0
35	88000	0
30	62000	0
31	118000	1
24	55000	0
28	85000	0
26	81000	0
35	50000	0
22	81000	0
30	116000	0
26	15000	0
29	28000	0
29	83000	0
35	44000	0
35	25000	0
28	123000	1
35	73000	0
28	37000	0
27	88000	0
28	59000	0
32	86000	0
33	149000	1
19	21000	0
21	72000	0
26	35000	0
27	89000	0

Age	EstimatedSalary	Purchased
26	86000	0
38	80000	0
39	71000	0
37	71000	0
38	61000	0
37	55000	0
42	80000	0
40	57000	0
35	75000	0
36	52000	0
40	59000	0
41	59000	0
36	75000	0
37	72000	0
40	75000	0
35	53000	0
41	51000	0
39	61000	0
42	65000	0
26	32000	0
30	17000	0
26	84000	0
31	58000	0
33	31000	0
30	87000	0
21	68000	0
28	55000	0
23	63000	0
20	82000	0
30	107000	1

Age	EstimatedSalary	Purchased
28	59000	0
19	25000	0
19	85000	0
18	68000	0
35	59000	0
30	89000	0
34	25000	0
24	89000	0
27	96000	1
41	30000	0
29	61000	0
20	74000	0
26	15000	0
41	45000	0
31	76000	0
36	50000	0
40	47000	0
31	15000	0
46	59000	0
29	75000	0
26	30000	0
32	135000	1
32	100000	1
25	90000	0
37	33000	0
35	38000	0
33	69000	0
18	86000	0
22	55000	0
35	71000	0

Age	EstimatedSalary	Purchased
29	148000	1
29	47000	0
21	88000	0
34	115000	0
26	118000	0
34	43000	0
34	72000	0
23	28000	0
35	47000	0
25	22000	0
24	23000	0
31	34000	0
26	16000	0
31	71000	0
32	117000	1
33	43000	0
33	60000	0
31	66000	0
20	82000	0
33	41000	0
35	72000	0
28	32000	0
24	84000	0
19	26000	0
29	43000	0
19	70000	0
28	89000	0
34	43000	0
30	79000	0
20	36000	0

Age	EstimatedSalary	Purchased
26	80000	0
35	22000	0
35	39000	0
49	74000	0
39	134000	1
41	71000	0
58	101000	1
47	47000	0
55	130000	1
52	114000	0
40	142000	1
46	22000	0
48	96000	1
52	150000	1
59	42000	0
35	58000	0
47	43000	0
60	108000	1
49	65000	0
40	78000	0
46	96000	0
59	143000	1
41	80000	0
35	91000	1
37	144000	1
60	102000	1
35	60000	0
37	53000	0
36	126000	1
56	133000	1



Age	EstimatedSalary	Purchased
40	72000	0
42	80000	1
35	147000	1
39	42000	0
40	107000	1
49	86000	1
38	112000	0
46	79000	1
40	57000	0
37	80000	0
46	82000	0
53	143000	1
42	149000	1
38	59000	0
50	88000	1
56	104000	1
41	72000	0
51	146000	1
35	50000	0
57	122000	1
41	52000	0
35	97000	1
44	39000	0
37	52000	0
48	134000	1
37	146000	1
50	44000	0
52	90000	1
41	72000	0
40	57000	0

Age	EstimatedSalary	Purchased
58	95000	1
45	131000	1
35	77000	0
36	144000	1
55	125000	1
35	72000	0
48	90000	1
42	108000	1
40	75000	0
37	74000	0
47	144000	1
40	61000	0
43	133000	0
59	76000	1
60	42000	1
39	106000	1
57	26000	1
57	74000	1
38	71000	0
49	88000	1
52	38000	1
50	36000	1
59	88000	1
35	61000	0
37	70000	1
52	21000	1
48	141000	0
37	93000	1
37	62000	0
48	138000	1

Age	EstimatedSalary	Purchased
41	79000	0
37	78000	1
39	134000	1
49	89000	1
55	39000	1
37	77000	0
35	57000	0
36	63000	0
42	73000	1
43	112000	1
45	79000	0
46	117000	1
58	38000	1
48	74000	1
37	137000	1
37	79000	1
40	60000	0
42	54000	0
51	134000	0
47	113000	1
36	125000	1
38	50000	0
42	70000	0
39	96000	1
38	50000	0
49	141000	1
39	79000	0
39	75000	1
54	104000	1
35	55000	0

Age	EstimatedSalary	Purchased
45	32000	1
36	60000	0
52	138000	1
53	82000	1
41	52000	0
48	30000	1
48	131000	1
41	60000	0
41	72000	0
42	75000	0
36	118000	1
47	107000	1
38	51000	0
48	119000	1
42	65000	0
40	65000	0
57	60000	1
36	54000	0
58	144000	1
35	79000	0
38	55000	0
39	122000	1
53	104000	1
35	75000	0
38	65000	0
47	51000	1
47	105000	1
41	63000	0
53	72000	1
54	108000	1

Age	EstimatedSalary	Purchased
39	77000	0
38	61000	0
38	113000	1
37	75000	0
42	90000	1
37	57000	0
36	99000	1
60	34000	1
54	70000	1
41	72000	0
40	71000	1
42	54000	0
43	129000	1
53	34000	1
47	50000	1
42	79000	0
42	104000	1
59	29000	1
58	47000	1
46	88000	1
38	71000	0
54	26000	1
60	46000	1
60	83000	1
39	73000	0
59	130000	1
37	80000	0
46	32000	1
46	74000	0
42	53000	0

Age	EstimatedSalary	Purchased
41	87000	1
58	23000	1
42	64000	0
48	33000	1
44	139000	1
49	28000	1
57	33000	1
56	60000	1
49	39000	1
39	71000	0
47	34000	1
48	35000	1
48	33000	1
47	23000	1
45	45000	1
60	42000	1
39	59000	0
46	41000	1
51	23000	1
50	20000	1
36	33000	0
49	36000	1