

CSE 847 (Spring 2019): Machine Learning— Homework 4

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1 Logistic Regression

| samples # | accuracy |
|-----------|----------|
| 200 | 0.89927 |
| 500 | 0.9158 |
| 800 | 0.91657 |
| 1000 | 0.91657 |
| 1500 | 0.91888 |
| 2000 | 0.9258 |

Table 1: training samples number and accuracy

2 Sparse Logistic Regression

| # of selected features | AUC | alpha |
|------------------------|---------|-------|
| 116 | 0.63684 | 0 |
| 106 | 0.62967 | 0.01 |
| 14 | 0.69952 | 0.1 |
| 5 | 0.67943 | 0.2 |
| 3 | 0.64498 | 0.3 |
| 2 | 0.62297 | 0.4 |
| 1 | 0.62201 | 0.5 |
| 1 | 0.62201 | 0.6 |
| 1 | 0.62201 | 0.7 |
| 1 | 0.62201 | 0.8 |
| 1 | 0.62201 | 0.9 |
| 0 | 0.5 | 1 |

Table 2: # of selected features number and AUC

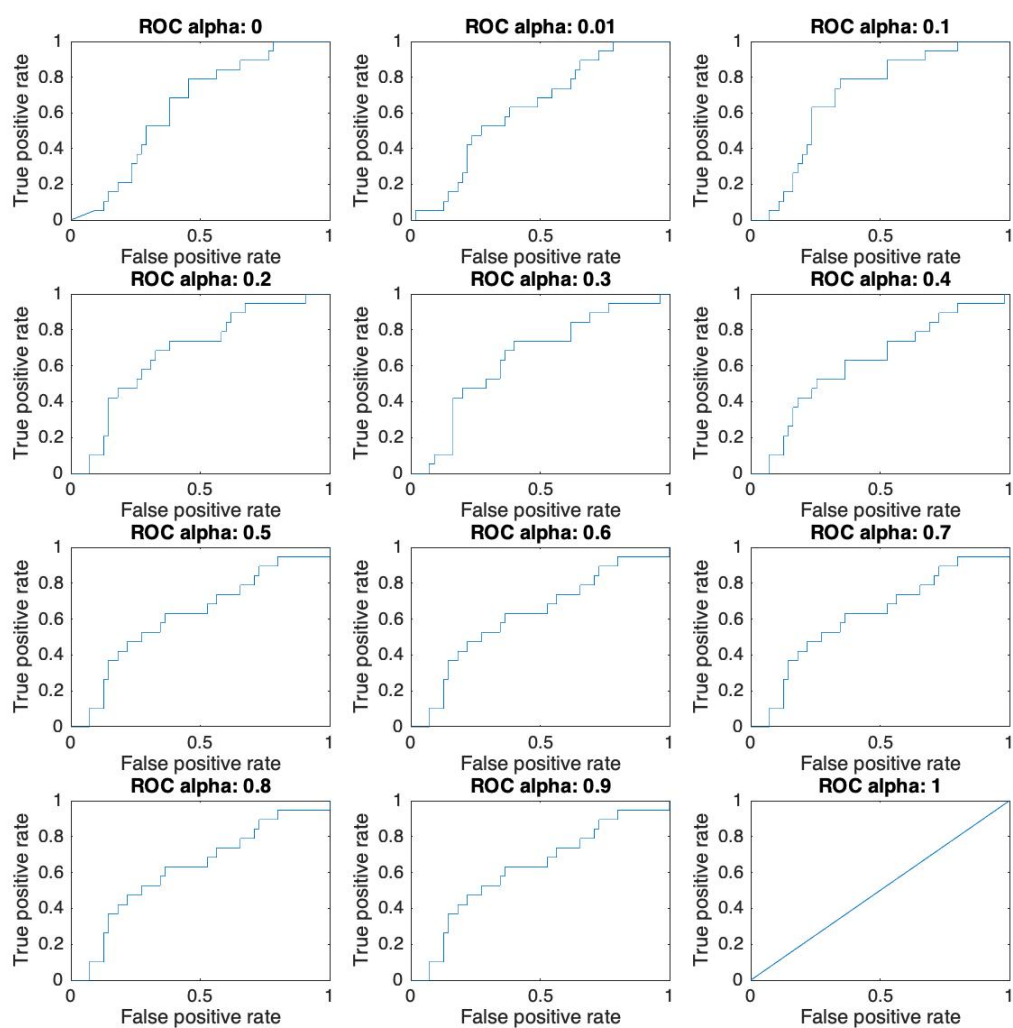


Figure 1: AUC with different alpha