Exploring precision and recall

13 试题

1 point

1.
Consider the logistic regression model trained on **amazon_baby.gl** using GraphLab Create.

Using accuracy as the evaluation metric, was our **logistic regression model** better than the **majority class classifier**?

- (●) Yes
- ( ) No

1 point

2. How many predicted values in the **test set** are **false positives**?

1443

1 point

3.
Consider the scenario where each false positive costs $100 and each false negative $1.

Given the stipulation, what is the cost associated with the logistic regression classifier's performance on the **test set**?

- [ ] Between $0 and $100,000
- [x] Between $100,000 and $200,000
- [ ] Between $200,000 and $300,000
- [ ] Above $300,000

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1 point

4.
Out of all reviews in the **test set** that are predicted to be positive, what fraction of them are **false positives**? (Round to the second decimal place e.g. 0.25)

0.04

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1 point

5.
Based on what we learned in lecture, if we wanted to reduce this fraction of false positives to be below 3.5%, we would:

- [ ] Discard a sufficient number of positive predictions
- [ ] Discard a sufficient number of negative predictions
- [x] Increase threshold for predicting the positive class ($\hat{y} = +1$)
- [ ] Decrease threshold for predicting the positive class ($\hat{y} = +1$)

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1 point

6.
What fraction of the positive reviews in the **test_set** were correctly predicted as positive by the classifier? Round your answer to 2 decimal places.

0.95

1 point

7.
What is the recall value for a classifier that predicts **+1** for all data points in the **test_data**?

1

1 point

8.
What happens to the number of positive predicted reviews as the threshold increased from 0.5 to 0.9?

- More reviews are predicted to be positive.
- Fewer reviews are predicted to be positive.

1 point

9.
Consider the metrics obtained from setting the threshold to 0.5 and to 0.9.

Does the **recall** increase with a higher threshold?

- Yes
- No

1 point

10.
Among all the threshold values tried, what is the **smallest** threshold value that achieves a precision of 96.5% or better? Round your answer to 3 decimal places.

0.838

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1 point

11.
Using threshold = 0.98, how many **false negatives** do we get on the **test_data**? (**Hint**: You may use the graphlab.evaluation.confusion_matrix function implemented in GraphLab Create.)

5826

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1 point

12.
Questions 13 and 14 are concerned with the reviews that contain the word **baby**.

Among all the threshold values tried, what is the **smallest** threshold value that achieves a precision of 96.5% or better for the reviews of data in **baby_reviews**? Round your answer to 3 decimal places.

0.864

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1 point

13.

Questions 13 and 14 are concerned with the reviews that contain the word **baby**.

Is this threshold value smaller or larger than the threshold used for the entire dataset to achieve the same specified precision of 96.5%?

- (●) Larger
- ( ) Smaller

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