Week 3 Quiz

Quiz, 7 questions

Congratulations! You passed!

Next Item

1 / 1 point

1.
A soccer team is believed to have a 8 to 2 odds of winning the election. What is the probability of winning for the candidate?

- 0.2
- 0.25
- 0.8

Correct
Refer to the following video for a refresher: video 1.

8 / (8+2) = 0.8

- 2

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1 / 1 point

2.
It is estimated that an appointment with a 10 day lag for a male patient has a predicted probability of **0.1372** of cancelling. Compare this with the predicted cancellation probability for a female patient who also has an appointment with a **10 day lag**.

Assume that value of gender variable is 1 for male patients and 0 for females. Also, assume that the estimated coefficient for gender is **-0.3572** , beta-0 is **-1.6515** , beta-1 is **.01699**.

- A female is less likely to cancel by 2.4%
- A female is more likely to cancel by 4.8%

Correct
P(Y=1) = exp(-1.6515+0.01699*10-0.3572*0)/ (1 + exp(-1.6515+0.01699*10-0.3572*0)

= 0.1852 = 18.52 % for female patient

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Increased chance of female vs male = 0.1852-0.1372 = 0.048

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Meaning a female is 4.8 % more likely to cancel than a male.

- A female is equally likely to cancel as a male
- A female is more likely to cancel by 6.9%

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1 / 1 point

3.

Given the following table, does the shaded quadrant represent true positives, true negatives, false positives, or false negatives? Assume cancellation is denoted by 1 and arrival is denoted by 0.

	Predicted = 0	**Predicted = 1**
Actual = 0	2303	17
Actual = 1	649	16

- True positives
- True negatives
- False positives

Correct

Was predicted to cancel but actually arrived

- False negatives

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0 / 1 point

4.

Answer Question 4 and Question 5 based on this confusion matrix:

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	Predicted=0	Predicted=1
Actual = 0	100	50
Actual = 1	100	150

It is believed that we can reverse 60% of cancellations with reminder phone calls. We decided to place reminder calls for all appointments that are predicted to cancel. For how many cases can we reverse cancellation (round to the nearest integer) ?

Assume cancellation is denoted by 1 and arrival is denoted by 0.

0.5000

Incorrect Response

For appointments that are predicted to cancel, there are 150 cancellations.

1 / 1 point

5.

Using the confusion matrix and answer found in Question 4....

Assume the cost of placing a reminder call is $1 using an automated system and the benefit of serving a patient is $50. What is the profit of placing reminder calls for all appointments predicted to cancel (round to the nearest integer)?

- 2300
- 3300
- 4300

Correct

Cost = 200

Benefit = 50*90 = 4500

Profit = Benefit - Cost = 4300

- 5300

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1 / 1 point

6.

Consider the following confusion matrix when answering the next two questions.

	Predicted=0	Predicted=1
Actual = 0	54	34
Actual = 1	9	18

What is the precision?

- 0.8571
- 0.5294
- 36
- 0.3462 ✓

Correct

TP / (TP + FP) = 18 / (18 + 34) = 0.3462

1 / 1 point

7.

What is the accuracy of the model?

- 0.1290
- 0.3462
- 0.6261 ✓

Correct

(TP+TN)/Grand total = (54+18)/(54+18+34+9) = 0.6261

- 72

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