Logistic Regression

Due No due date	**Points** 2	**Questions** 2	**Available** after Apr 1 at 16:13
Time Limit None	**Allowed Attempts** Unlimited		

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Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	less than 1 minute	0 out of 2

Submitted Jun 16 at 18:20

Unanswered

Question 1

0 / 1 pts

Which one is the **logistic transformation** that logistic regression takes to model the probability *p*?

orrect Answer

- Log odds
- Log
- Exponential
- Identity

$$log\frac{p}{1-p} = \theta_0 + \theta_1 x_1 + \cdots + \theta_F x_F$$

Unanswered

Question 2

0 / 1 pts

Assume there are class 0 and 1, *p* is the probability for class 1, and we have feature value x1, ..., xf . What is the **decision rule** for classifying an instance as class 1 in logistic regression?

Correct Answer

- $\sigma(\widehat{\theta_0} + \widehat{\theta_1}x_1, \dots, + \widehat{\theta_F}x_f) > 0.5$
- $\sigma(\widehat{\theta_0} + \widehat{\theta_1}x_1, \dots, + \widehat{\theta_F}x_f) > 0$
- $\sigma(\widehat{\theta_0} + \widehat{\theta_1}x_1, \dots, + \widehat{\theta_F}x_f) < 0$
- $\sigma(\widehat{\theta_0} + \widehat{\theta_1}x_1, \dots, + \widehat{\theta_F}x_f) > 1$

This is a binary classification task, and $\sigma(\widehat{\theta_0} + \widehat{\theta_1}x_1, \dots, + \widehat{\theta_F}x_f)$ gives an estimate of the probability of class 1. Therefore, we classify the instance as class 1 if its probability is greater than 0.5 and classify as class 0 otherwise.