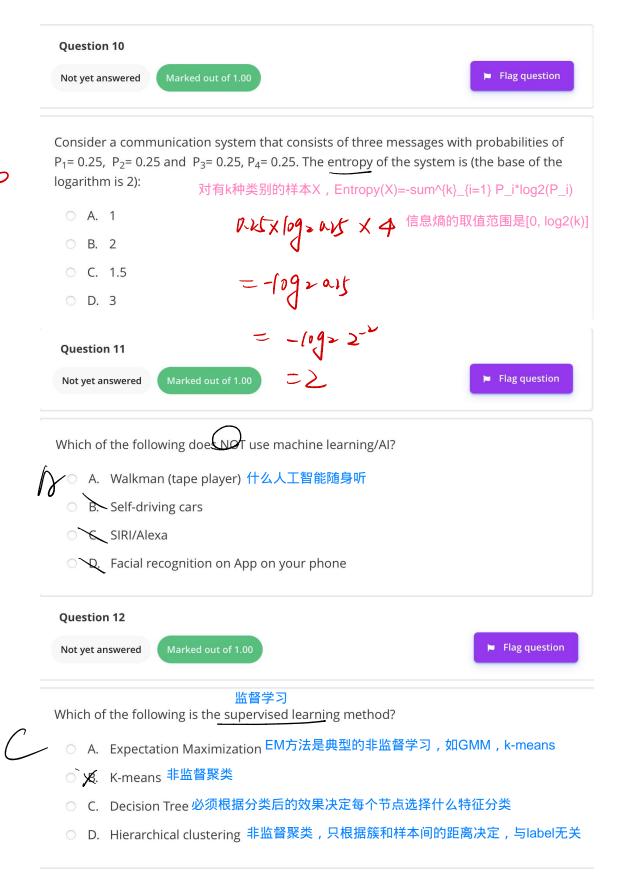
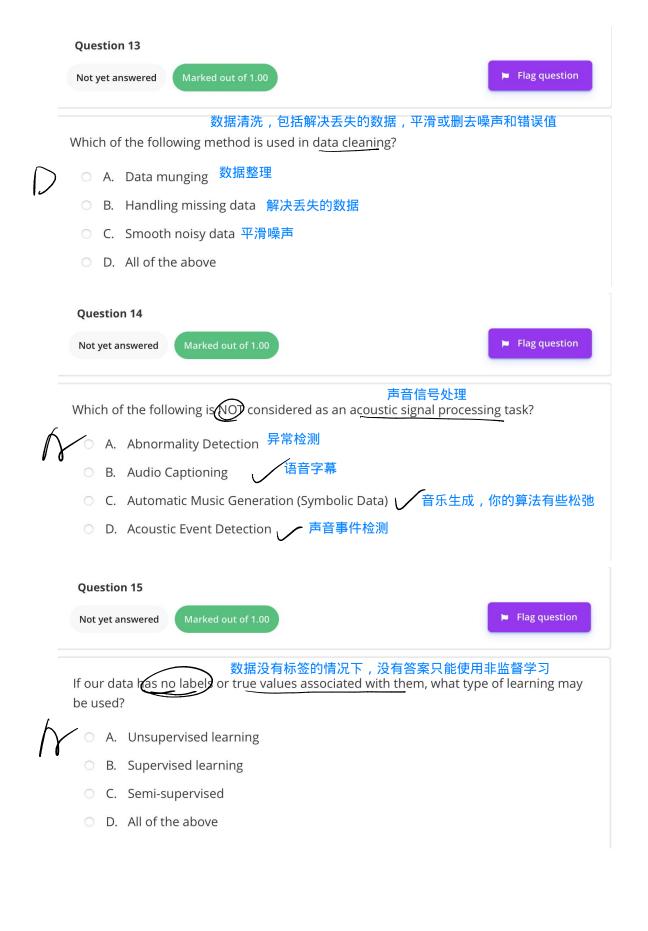




	Question 7
	Not yet answered Marked out of 1.00
	梯度下降法中使用不合适的学习率会导致 Inappropriate selection of learning rate value in gradient descent gives rise to:
	○ A. Local Minima 只能找到局部最小,找极值找不到最值是梯度下降的通病
	OB. Oscillations 人震荡,即无法收敛,在学习率过大的时候会产生
	○ C. Slow convergence ✓ 收敛速度慢,常在学习率过小时发生
	O D. All of the above
	Question 8
D	Not yet answered Marked out of 1.00
	特征脸(Eigenface)是指用于机器视觉领域中的人脸识别问题的一组特征向量, 任意一张人脸图像都可以被认为是这些标准脸的组合 Which of the following techniques is "eigenfaces" build on? 原理上是用PCA做,那么SVD也能做
	○ A. Non-negative matrix factorization 非负矩阵分解
	B. Independent Component Analysis
	○ C. Singular Value Decomposition 奇异值分解,scikit-learn内部的PCA也是用SVD做的
	○ D. Support Vector Machine 完全不相干
	NMF与PCA、ICA和SVD都是降维找特征的方法容易混淆,本题需要记概念! Question 9
	Not yet answered Marked out of 1.00
	零假设 The point where the Null Hypothesis gets rejected is called as?
>	A. Rejection Value
	假设检验中,如果观察到的统计量大于或小于临界值(Critical Value)则认为该统计量具有显著性差异,从而拒绝零假设(Null Hypothesis)。
	○ C. Significant Value
	O. Acceptance Value
	零假设可以是"这个药物对治疗癌症没有作用"; 于是有对立的备择假设(Alternative Hypothesis)如"这个药物对治疗癌症有一定的有效性" 然后构造一个小概率事件,并基于抽取的样本数据来检验这个小概率事件是否发生。 如果小概率事件发生了,则拒绝零假设;如果小概率事件没有发生,则接受零假设。





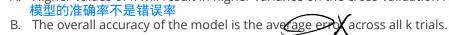
Not yet answered



Which of the following statement is true for k-fold cross-validation?

## 增加交叉验证折数一般会提升模型泛化能力,降低方差,但不保证

Higher values of k will result in higher variance on the cross-validation result.



- C. The number of data points must be larger than k.k-fold中应当是采样k-1次
- O D. Every data point has the chance to be in the training set exactly once.

同一个样本可以重复采样

## **Question 17**

Not yet answered

Flag question

Consider the following data

X	-2	-1	1	2	
Y	0	2	4	6	

A linear regression model



$$f(x) = \omega_0 + \omega_1 x$$

## 最小二乘法做线性回归

is fit to the data using the least square method. What are the optimal parameters?

O A. 
$$\omega_0 = 3$$
 and  $\omega_1 = 1.4$  fix = 3+1/4x.  $Z = 0 + 1 + 1 + 2 = 4$ 

O B.  $\omega_0 = 2$  and  $\omega_1 = 1$  fix)= 2+1x.  $Z = 0 + 1 + 1 + 2 = 4$ 

O B. 
$$\omega_0 = 2$$
 and  $\omega_1 = 1$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$   $\frac{1}{1}$ 

O. C. 
$$\omega_0 = 2.4$$
 and  $\omega_1 = 2 + x = 0.4 + 2x$   $\mathcal{E} = \lambda b^2 + \lambda b^2 + \alpha 4^2 + \alpha 4^2$ 

Ο D. 
$$ω_0 = 3$$
 and  $ω_1 = 2.4$  fx)= 3+2.4x  $z = 1.8^2 + 1.4^2 = x$ 

选择题专用做法就是看谁的残差平方和最小  $E=min(sum(f(x)-y))^2$ 



## 既不能拟合测试集也不能拟合训练集属于欠拟合(Underfitting)

很好拟合训练集不拟合测试集属于过拟合(Overfitting) 在训练集和测试集上有均衡表现属于良好拟合(Good fitting)

A. Good fitting

O B. Overfitting

O C. Underfitting

O. None of the above

1b 2d 3a 4a 5c 6b 7d 8d 9b 10b 11a 12c 13d 14a 15a 16b 17a 18c