

Introduction to NLP with a Focus on Classification Tasks TEST A

距结束: 00:09:44

Directions: This program test contains 10 single choice questions to be answered within 30 minutes designed to measure program candidates' basic knowledge and skills that they are assumed to have acquired. Solve each problem and choose the correct answer. Pace yourself and do not linger over problems that may take you too much time.

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1. Which of these is a reasonable definition of machine learning?

- ☐ A. Machine learning is the field of allowing robots to act intelligently.
- ☒ B. Machine learning is the field of study that gives computers the ability to learn without being explicitly programmed.
- ☐ C. Machine learning is the science of programming computers.
- ☐ D. Machine learning learns from labeled data.

2. Strong Artificial Intelligence is

- ☐ A. a set of computer programs that produce output that would be considered to reflect intelligence if it were generated by humans
- ☒ B. the embodiment of human intellectual capabilities within a computer
- ☐ C. the study of mental faculties through the use of mental models implemented on a computer
- ☐ D. all of the mentioned

3. A computer program is said to learn from experience E with respect to some task T and some performance measure P if its performance on T, as measured by P, improves with experience E. Suppose we feed a learning algorithm a lot of historical weather data, and have it learn to predict weather. In this setting, what is T?

- ☒ A. The weather prediction task.
- ☐ B. The process of the algorithm examining a large amount of historical weather data.
- ☐ C. The probability of it correctly predicting a future date's weather.
- ☐ D. None of these.

4. Different learning methods does not include

- ☐ A. Memorization
- ☐ B. Analogy
- ☐ C. Deduction
- ☒ D. Introduction

5. Select the outcome of following codes. `def sum(a,b,c): if a==b or b==c and a==c: sum=0 else: sum=a+b+c return sum print(sum(1,1,2))`

- ☒ A. 0

- ☐ B. 2
- ☐ C. 3
- ☐ D. 4

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6. Which of the following will be Euclidean Distance between the two data point A(1,3) and B(2,3)?

- ☒ A. 1
- ☐ B. 2
- ☐ C. 4
- ☐ D. 8

7. K-fold cross-validation is

- ☒ A. linear in K
- ☐ B. quadratic in K
- ☐ C. cubic in K
- ☐ D. exponential in K

8. You observe the following while fitting a linear regression to the data: As you increase the amount of training data, the test error decreases and the training error increases. The train error is quite low (almost what you expect it to), while the test error is much higher than the train error. What do you think is the main reason behind this behavior. Choose the most probable option.

- ☒ A. High variance
- ☐ B. High model bias
- ☐ C. High estimation bias
- ☐ D. None of the above

9. Select the outcome of following codes. `import math a=math.acos(0.5) print(a)`

- ☐ A. $\pi/2$
- ☒ B. $\pi/3$
- ☐ C. $\pi/4$
- ☐ D. $\pi/6$

10. Select the outcome of following codes.

```
n=0
m=0
numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)
for x in numbers:
    if x%2==0:
        n=n+1
    else:
        m=m+1
print((n,m))
```

- ☒ A. (4,5)
- ☐ B. (5,4)

- ☐ C. (4,4)
- ☐ D. (5,5)

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