X

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

week 4

Week 5

Week 6

Week 7

Bias and Variance (unit?unit=91&lesson=92)

Train error vs Test error (unit?unit=91&lesson=93)

Assignment 7

The due date for submitting this assignment has passed.

Due on 2021-03-10, 23:59 IST.

Assignment submitted on 2021-03-10, 23:30 IST

1) Mathematically, The Simple model has a high bias, and the complex model has a low bias. ***1 point***

- (●) True
- ( ) False

Yes, the answer is correct.
Score: 1

Accepted Answers:
True

2) Related to variance, which one of the following is true? ***1 point***

- (●) $((\hat{f}(x)) = E[(\hat{f}(x) - E[\hat{f}(x)])^2]$
- ( ) $((\hat{f}(x)) = E[(\hat{f}(x) + E\hat{f}(x)])^2]$
- ( ) $((\hat{f}(x)) = E[(\hat{f}(x) - E\hat{f}(x)])]$
- ( ) $((\hat{f}(x)) = E[(\hat{f}(x) - [\hat{f}(x)])^2]$

Yes, the answer is correct.
Score: 1

- Train error vs Test error (Recap) (unit?unit=91&lesson=94)
- True error and Model complexity (unit?unit=91&lesson=95)
- L2 regularization (unit?unit=91&lesson=96)
- Dataset augmentation (unit?unit=91&lesson=97)
- Parameter sharing and tying (unit?unit=91&lesson=98)
- Adding Noise to the inputs (unit?unit=91&lesson=99)
- Adding Noise to the outputs (unit?unit=91&lesson=100)
- Early stopping (unit?unit=91&lesson=101)
- Ensemble Methods (unit?unit=91&lesson=102)
- Dropout (unit?unit=91&lesson=103)
- Lecture Material for Week 7 (unit?unit=91&lesson=104)
- **Quiz: Assignment 7 (assessment?name=185)**
- Week 7 Feedback Form : Deep

Accepted Answers:
$((\hat{f}(x)) = E[(\hat{f}(x) - E[\hat{f}(x)])^2]$

3) As the model complexity increases, $\text{train}_{\text{error}}$ becomes overly optimistic and gives a wrong picture of how close $\hat{f}$ is to f. ***1 point***

- True
- False

Yes, the answer is correct.
Score: 1
Accepted Answers:
True

4) Related to the Model complexity, S_1 and S_2 are two statements. Choose the correct option. ***1 point***

S_1. As the Model complexity increases, the training error go to almost zero.

S_2. As the Model complexity increases, the validation error decreases up to certain point.

- S_1 is true and S_2 is false.
- S_1 is false and S_2 is true.
- Both S_1 and S_2 are true.
- Both S_1 and S_2 are false.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Both S_1 and S_2 are true.

5) S_1, S_2 and S_3 are three statements with respect to Deep neural networks,choose the correct option. ***1 point***

S_1:Highly complex models.

S_2: Many parameters, many non-linearities.

S_3. Does not need any form of regularization.

- S_1 is true, S_2 is false, S_3 is true.
- S_1 is false, S_2 is true, S_3 is false.
- S_1 is true, S_2 is true, S_3 is false.
- S_1 is true, S_2 is true, S_3 is true.

No, the answer is incorrect.
Score: 0
Accepted Answers:
S_1 is true, S_2 is true, S_3 is false.

6) Dropout is a technique which addresses issues of train time computation and test time computation. ***1 point***

Learning - IIT Ropar (unit?unit=91&lesson=105)

Week 8

Week 9

week 10

Week 11

Week 12

Download Videos

Text Transcripts

- (●) True
- ( ) False

Yes, the answer is correct.
Score: 1
Accepted Answers:
True

7) Bagging forms is an ensemble method, which can be used for _____ instances of the _____ classifier. ***1 point***

- (●) Different, Same
- ( ) Same, Different
- ( ) Same, Same
- ( ) Different, Different

Yes, the answer is correct.
Score: 1
Accepted Answers:
Different, Same

8) Consider the equation of expected squared error: $mse = \frac{1}{k}V + \frac{k-1}{k}C$ If the errors are independent, then covariance is _____ ***1 point***

- ( ) 1
- (●) 0
- ( ) 2
- ( ) 3

Yes, the answer is correct.
Score: 1
Accepted Answers:
0

9) For a simple input and output neural network, adding Gaussian noise to the input is equivalent to weight decay (L2 regularization). ***1 point***

- (●) True
- ( ) False

Yes, the answer is correct.
Score: 1
Accepted Answers:
True

10) How many thinned networks can be formed,if given a total number of n nodes? ***1 point***

- (●) 2^n
- ( ) $2^n + 1$
- ( ) $2^n - 1$

$2^n + 1$

Yes, the answer is correct.
Score: 1

Accepted Answers:
2^n