Lesson 2: Practice Quiz

Practice Quiz, 5 questions

5/5 points (100.00%)

✓ **Congratulations! You passed!**

Next Item

✓ 1 / 1 point

1.
The method of maximum likelihood gives the same parameter estimates as the method of least squares for any measurement noise distribution.

- True
- False

Correct
Correct! The noise must be from the Gaussian family.

✓ 1 / 1 point

2.
The product of several Gaussian PDFs with identical variances is also Gaussian.

- True

Correct
Correct! We used this fact to derive the connection between maximum likelihood and least squares.

- False

✓ 1 / 1 point

3.
The least squares criterion is robust to outliers.

- True
- False

Correct
Correct! Least squares is particularly sensitive to outliers due to the use of squared errors!

✓ 1 / 1 point

4.
For a scalar Gaussian random variable, what is the form of the full log likelihood function?

- $-\frac{1}{2}\log(2\pi) - \frac{1}{2}\log\left(\sigma^2\right) - \frac{1}{2\sigma^2}\left(x-\mu\right)^2$

Correct
Correct!

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$-\frac{1}{2}\log(2\pi) + \frac{1}{2}\log(\sigma) - \frac{1}{2\sigma^2}(x-\mu)^2$

1 / 1 point

5.
True or False, $\operatorname{argmin}_x f(x) = \operatorname{argmax}_x f(-x)$.

- True
- False

Correct
Correct! $\operatorname{argmin}_x f(x) = \operatorname{argmax}_x -f(x)$.