Anomaly Detection

Quiz, 5 questions

Congratulations! You passed!

Next Item

1 / 1 point

1.
For which of the following problems would anomaly detection be a suitable algorithm?

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1 / 1 point

2.
Suppose you have trained an anomaly detection system that flags anomalies when $p(x)$ is less than ε, and you find on the cross-validation set that it has too many false negatives (failing to flag a lot of anomalies). What should you do?

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1 / 1 point

3.
Suppose you are developing an anomaly detection system to catch manufacturing defects in airplane engines. You model uses

$$p(x) = \prod_{j=1}^{n} p(x_j; \mu_j, \sigma_j^2).$$

You have two features x_1 = vibration intensity, and x_2 = heat generated. Both x_1 and x_2 take on values between 0 and 1 (and are strictly greater than 0), and for most "normal" engines you expect that $x_1 \approx x_2$. One of the suspected anomalies is that a flawed engine may vibrate very intensely even without generating much heat (large x_1, small x_2), even though the particular values of x_1 and x_2 may not fall outside their typical ranges of values. What additional feature x_3 should you create to capture these types of anomalies:

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1 / 1 point

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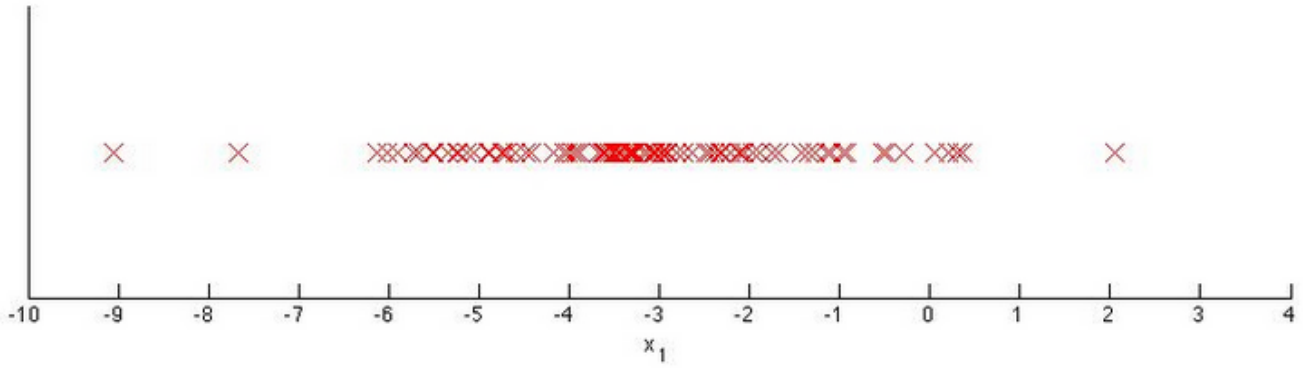
4.
Which of the following are true? Check all that apply.

1 / 1 point

5.
You have a 1-D dataset $\{x^{(1)}, \ldots, x^{(m)}\}$ and you want to detect outliers in the dataset. You first plot the dataset and it looks like this:



Suppose you fit the gaussian distribution parameters μ_1 and σ_1^2 to this dataset. Which of the following values for μ_1 and σ_1^2 might you get?