

- Consider a neural network used for classification function. If the output of the

network is:
$$\begin{bmatrix} \text{class 1 score} \\ \text{class 2 score} \\ \text{class 3 score} \end{bmatrix} = \begin{bmatrix} 0.2 \\ 1.5 \\ 1 \end{bmatrix}$$

- a. Using SVM loss, and assuming that the threshold (margin) is equal to 1, calculate the numerical value of the loss assuming that the target class is class 2:

Numerical value of the loss is:

- b. Calculate the numerical value of the SVM loss assuming that the target class is class 3:

Numerical value of the loss is:

- c. Using softmax and cross entropy loss, Calculate the numerical value of the loss assuming that the target class is class 2:

Note: Use base e for calculation of log.

Numerical value of the loss is:

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network is:
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If the desired output for a multi-class classification is:

$$\begin{bmatrix} 0.2 \\ 0.7 \\ 0.1 \end{bmatrix}$$

Using softmax and cross entropy loss, Calculate the numerical value of the loss.
Note: Use base e for calculation of log.

Numerical value of the loss is:

Does it make sense to calculate the MSE in this case?

Does it make sense to calculate the SVM in this case?