1. Why did you choose the particular algorithm?

As we know that this is a binary classification task (i.e, planet or false positive aka not planet). So I tried to use pytorch framework of deep learning to create the feedforward network model. I thought if I use complex model may be I could get better results but ended up getting an accuracy of only 53.4%. Suddenly an idea popped up in my mind that if I use some simpler model like SVM or Descission tree then what would be the scenario? So, when I tried for simpler model then I found that simpler model was able to give us test accuracy of 67.9% which is lot better than previous model. This goes to show that a more complex model might not always be the go-to solution for every task.We could even use other machine learning algorithms like SVM or decision trees to come into agreeable accuracy.

2. What are the different tuning methods used for the algorithm?

I have used gradient descent technique to optimize the algorithm with learning rate = 0.01.

3. Did you consider any other choice of algorithm?Why or why not?

No, I saw that this is a binary classification task and I was pretty sure that I should use SVM or Descision Tree but I wanted to check that what would be the result if I go with the higher complex model using pytorch framework of deep learning.So when I implemented the simple feedforward architecture with just linear combinations and sigmoid activation.
The model architecture is as followed:

1. Input-layer (fully connected) (37 x 32)
2. Sigmoid activation (32)
3. 1st Hidden-layer (fully connected) (32 x 16)
4. Sigmoid activation (16)
5. 2nd Hidden-layer (fully connected) (16 x 8)
6. Sigmoid activation (8)
7. Output-layer (fully connected) (8 x 1)
8. Sigmoid activation (output) (1)

I found that the test accuracy was very poor then I went with simpler model and found that the test accuracy was much far better than the complex algorithm I have used previously for the same task.

4. What is the accuracy?

Talking to the accuracy of the model 53.4% with the complex algorithm and when I went with simpler algorithm then I found that the accuracy was 67.9%.

5. What are the different types of metrics that can be used to evaluate the model?

The different types of metrics that can be used to evaluate the model are accuarcy and confusion matrix.

Thank You

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