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BIFX 546

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**Machine Learning Final Exam**

Implement and evaluate the performance using the proper metrics for the binary classification of the Breast-Cancer dataset provided:

1. Implement a Neural Network in Keras, evaluate performance using Accuracy, Precision, Recall and F1-Score.

My model statistics, calculated in the attached R file, are as follows:

* Accuracy = 0.666
* Precision = 0.111
* Recall = 0.400
* F1-Score = 0.173

1. Evaluate if your Neural Network is overfitting based on the performance and loss functions, explain and describe your findings. Could you improve your model?

After comparing metrics for results calculated with validation versus training data, it seems unlikely that the model is overfit. Both datasets performed poorly, though the validation set did slightly better. Their loss values are nearly the same. Despite this, the model could certainly be improved. As the metrics above show, it is not a very good model by default. However as things stand, overfitting does not seem to be the problem here. More fine tuning of the different layers could possibly prove fruitful.