**Assignment ML 3**

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**Support Vector Machine (SVM) report:**

Kernel type: linear

**Accuracy:** 0.89

**Confusion Matrix:**

[[ 65 110]

[ 17 1016]]

Kernel type: rbf

**Accuracy**: 0.90

**Confusion Matrix:**

[[ 65 110]

[ 10 1023]]

Kernel type: poly

**Accuracy:** 0.89

**Confusion Matrix:**

[[ 59 116]

[ 14 1019]]

**Neural Network report:**

**Confusion Matrix:**

**[[ 79 96]**

**[ 23 1010]]**

**ACCURACY:**

**Test Accuracy: 0.9006622433662415 (=90%)**

### **Conclutions from the Curve loss:**

1. **Loss is decreasing —** This means the model is learning and improving.
2. **Validation loss is lower than training loss — It can happen when:**

-The validation set is easier than the training set.

-Regularization or dropout is used during training.

1. **No signs of overfitting —** If the validation loss started increasing while training loss kept decreasing, that means there is (overfitting). But here, both are stable or decreasing.