Your Report Title

Your Name

February 25, 2025

Abstract

This is the abstract of your report. It should provide a brief summary of the content and main findings of the report.

1 Introduction

This is the introduction section. Here you should introduce the topic of your report, provide some background information, and state the objectives of your work.

2 Linear SVM

This section discusses the hyperparameter tuning and results of a linear support vector machine implementation.

2.1 Optimal Tuning

This model was tuned using K-fold Cross Validation and several values of C, the regularization parameter CHECK THIS SHIT. To find the optimal value of C, the following format was used B ¿ 1 and C0 ¿ 0 with C = C0 raised to the B * ith power where i is the iteration number. The optimal value for C with the lowest average loss for kfold validation where k = 10 with 2000 data points sampled from the original 12000 was 2.2 * $10^4 or 22193 or 1.1 * *7 * 15$.

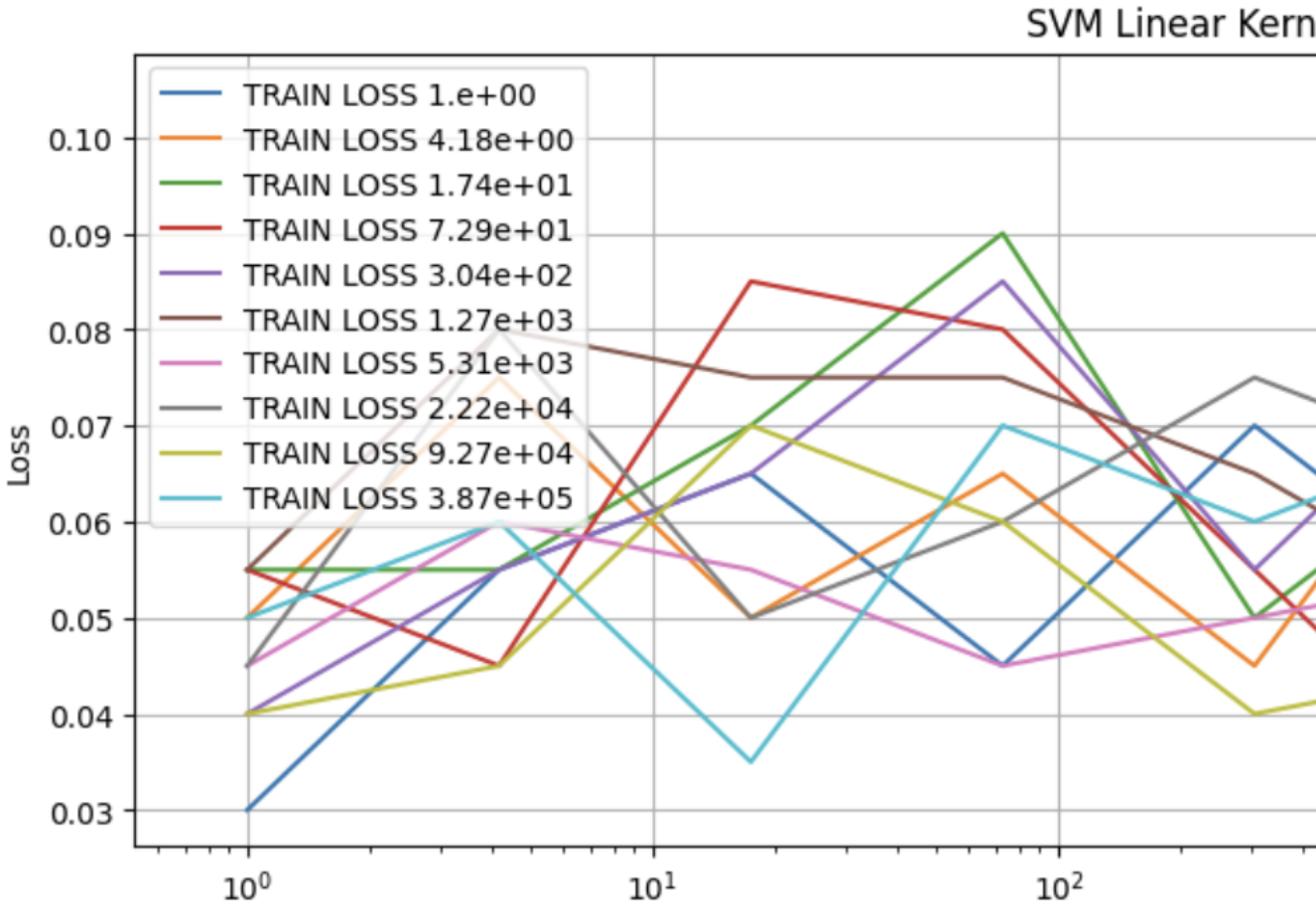

Figure 1: Linear SVM Training Losses

2.2 Total Train and Test Loss

BLAH BLAH BLAH RESULTS THAT TAKE A LONG TIME TO COMPUTE

3 Kernelized SVM

This section should describe the methods and procedures you used in your work. Be sure to provide enough detail so that someone else could replicate your study.

4 Neural Network

Here you should present the results of your work. This can include tables, figures, and descriptive text.

5 Model Comparison

In this section, you should interpret your results and discuss their implications. You can also discuss any limitations of your study and suggest areas for future research.

6 Conclusion

This is the conclusion section. Summarize the main findings of your report and restate the significance of your work.