



SEARCH



RESOURCES

CONCEPTS

- ✓ 2. Which line is better?
- ✓ 3. Minimizing Distances
- ✓ 4. Error Function Intuition
- ✓ 5. Perceptron Algorithm
- ✓ 6. Classification Error
- ✓ 7. Margin Error
- ✓ 8. (Optional) Margin Error Calcul...

9. Error Function

10. The C Parameter

11. Polynomial Kernel 1

12. Polynomial Kernel 2

13. Polynomial Kernel 3

14. RBF Kernel 1

15. RBF Kernel 2

16. RBF Kernel 3

17. SVMs in sklearn

18. Recap & Additional Resources

(Optional) Margin Error Calculation

In this optional section, we'll calculate the distance between the two margins in the SVM.

First, recall the notation, where $W = (w_1, w_2)$ and $x = (x_1, x_2)$, and $Wx = w_1x_1 + w_2x_2$.

Notice that all we have three lines, of the following equations:

- $Wx + b = 1$
- $Wx + b = 0$
- $Wx + b = -1$

And in order to find the distance between the first and the third, we only need to find the distance between the first two, and multiply by two, as these are three equidistant parallel lines. That is, we need to find the distance between the two lines in Figure 1.

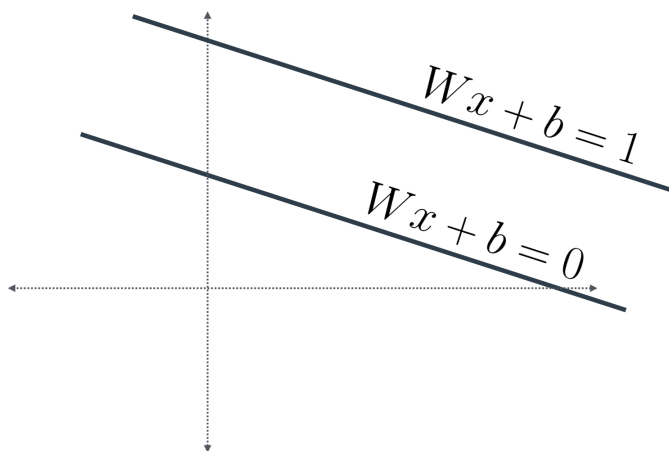


Figure 1

Now, notice that since we're only measuring distances between lines, we might as well translate these two lines, so that one of them touches the origin (Figure 2). Thus, our new equations are:

- $Wx = 0$
- $Wx = 1$



Mentor Help

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