PadhAI: 6 Jars of Sigmoid Neuron

One Fourth Labs

Error Surfaces for learning

Can we connect this to the loss function?

1. So far, we have iteratively modified w and b till we reached the values which yielded minimum loss
2. However, instead of a smooth descent from initial value to the minimum, the loss fluctuates each iteration.
3. For eg, for the previously used dataset, loss over each iteration was

Iteration	w	b	loss	Increase/decrease
1	0	0	0.1609	-
2	1	0	0.1064	decrease
3	2	0	0.1210	increase
4	3	0	0.1217	increase
5	3	-2	0.1215	decrease
6	3	-9	0.0209	decrease
7	2	-9	0.0696	increase
...final	2	-7	0	decrease

4. Now, this erratic fluctuation is undesirable. We need to use an algorithm that ensures that the loss decreases on every iteration or at the very least, doesn't increase.
5. The following image shows the plot of the loss wrt w and b. The lowest point refers to the minimum loss which corresponds to the ideal parameters of w(2) and b(-7).