

## Learning Algorithm (Gradient Descent)

### Intro to Learning Algorithm

**Learning Objective:** In sigmoid neuron or any other model, we have parameters that influence the way the output is predicted (ie, the way the curve is drawn). Changing these parameters changes the curve. The objective of a learning algorithm is to determine the values for these parameters such that the overall loss of the model over the training data is minimized.

Steps (for sigmoid neuron)

1. Initialize  $w$  and  $b$  (random initialization)
2. Iterate over the data
  - a. Update  $w$  and  $b$  for every iteration
3. End when satisfied (ie, loss is minimized)