PadhAI: 6 Jars of Sigmoid Neuron

One Fourth Labs

Sigmoid Neuron

Sigmoid Model

Model Part 3

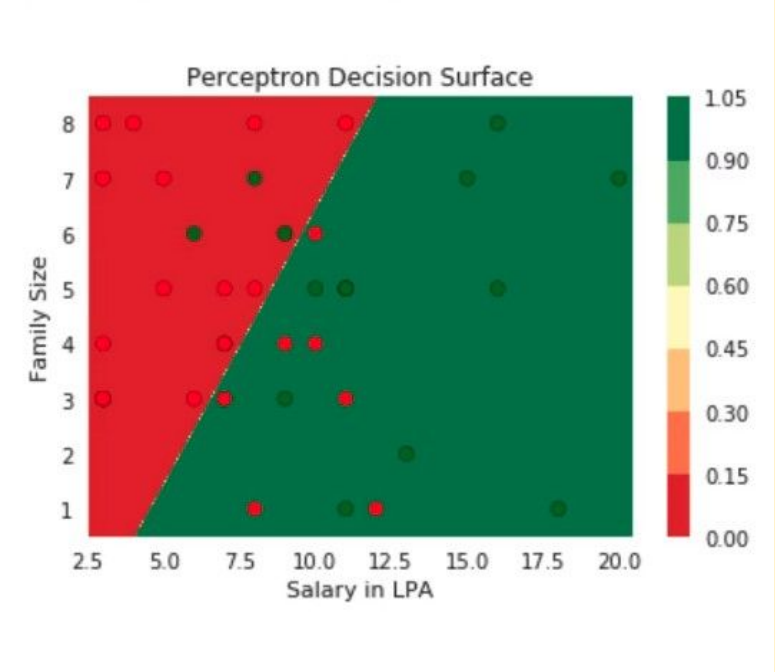
How does this help when the data is not linearly separable

1. $y = 1/(1 + \exp(-(w^T x + b))$
2. Consider the following dataset

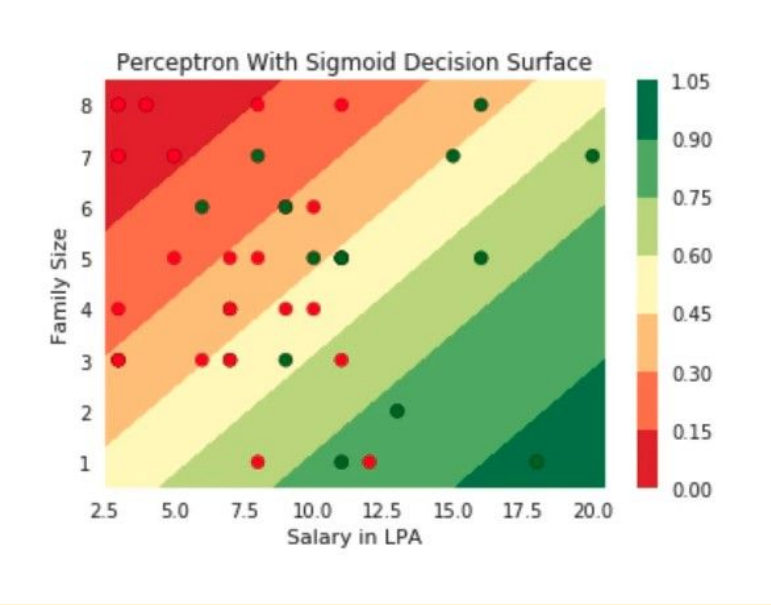
	Salary in LPA	Family Size	Buys Car?
0	11	8	1
1	20	7	1
2	4	8	0
3	8	7	0
4	11	5	1

3. The dataset is visualised

4. Decision Boundary: Perceptron



5. Decision boundary: Perceptron with sigmoid. (Not optimised to separate outputs efficiently)



6. Here even the sigmoid function doesn't effectively separate the outputs.
7. We must play around with different values of w and b to find the best fit
8. This can be done with the learning algorithm