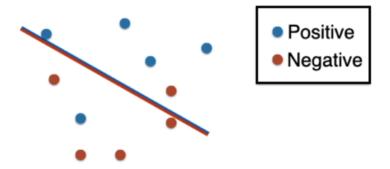
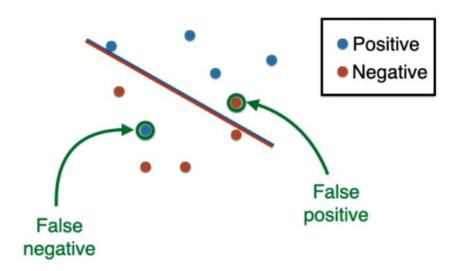
The ROC Curve

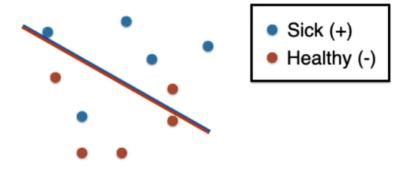
(Receiver Operating Characteristic)

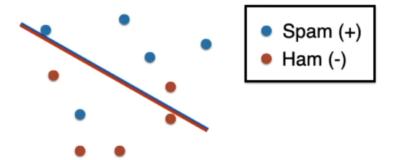
Luis Serrano



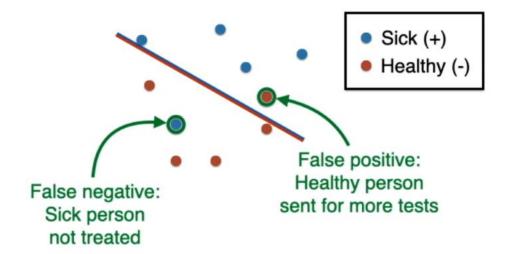


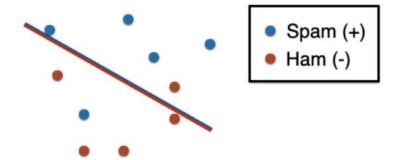
Medical model



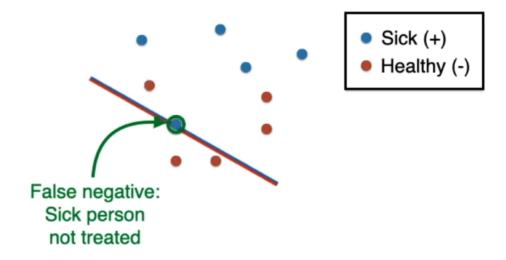


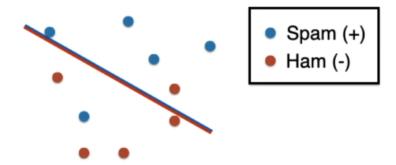
Medical model





Medical model



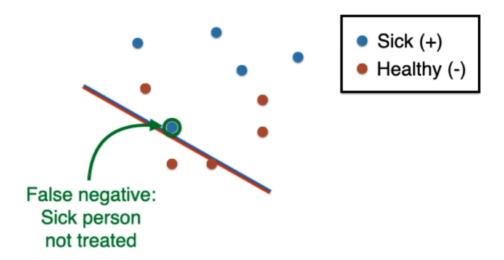


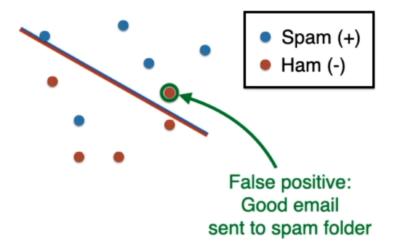
not treated

Medical model Spam model Sick (+) Spam (+) Healthy (-) Ham (-) False positive: False negative: False negative: Good email Spam email Sick person sent to spam folder

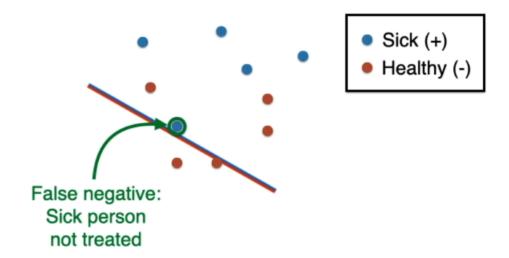
sent to inbox

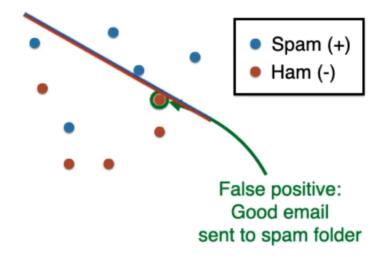
Medical model

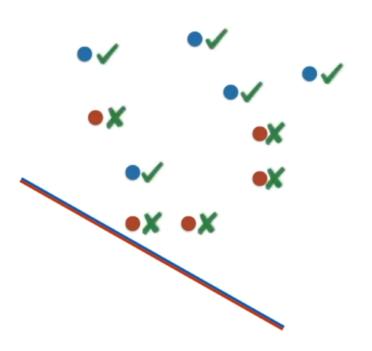




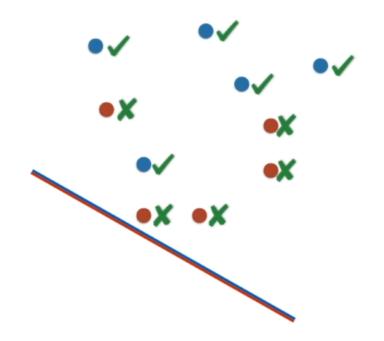
Medical model

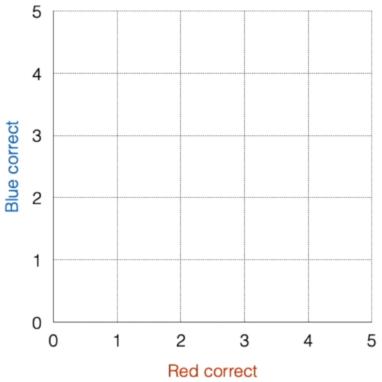


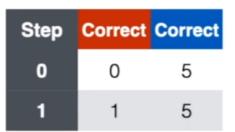


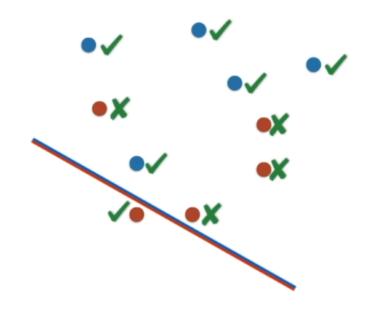


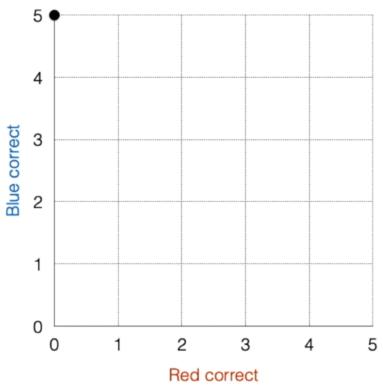




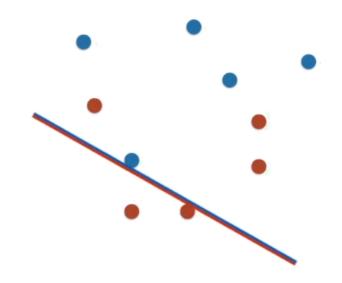


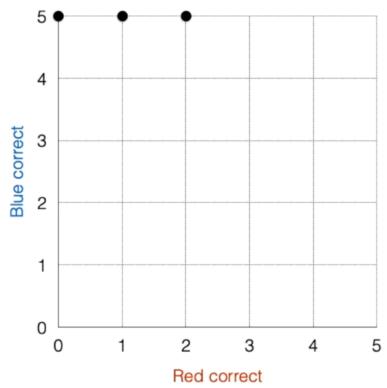


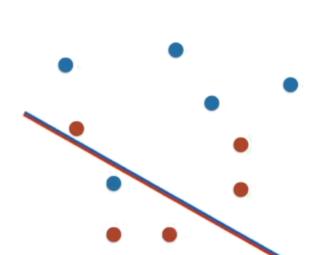




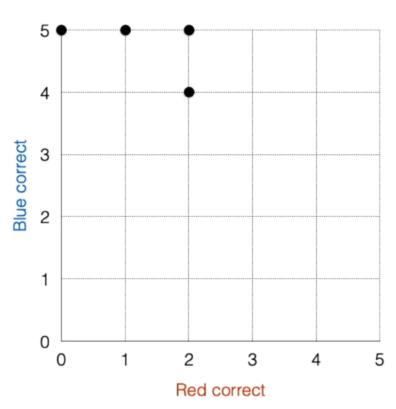


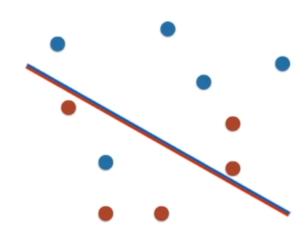




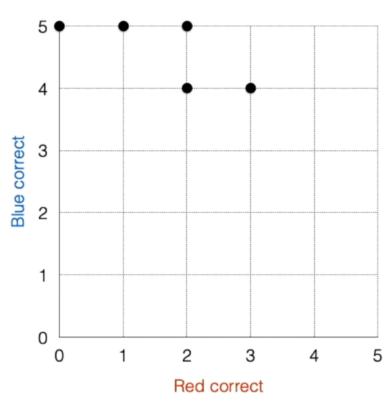


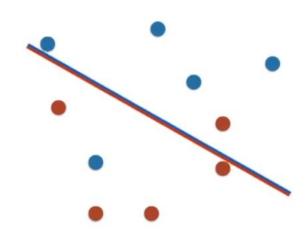
Step	Correct	Correct
0	0	5
1	1	5
2	2	5
3	2	4



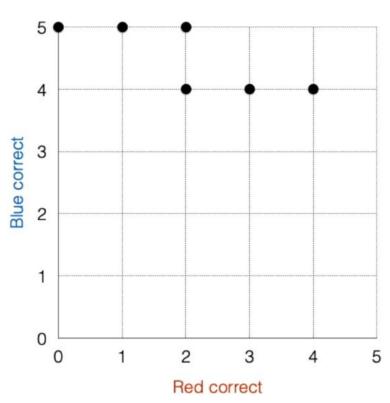


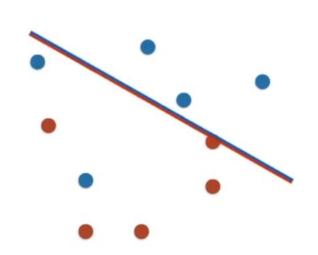
Step	Correct	Correct
0	0	5
1	1	5
2	2	5
3	2	4
4	3	4

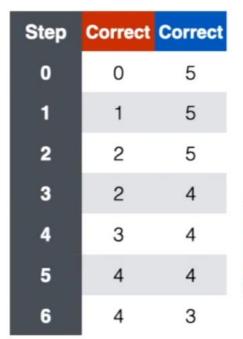


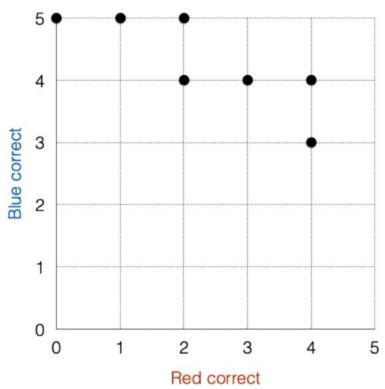


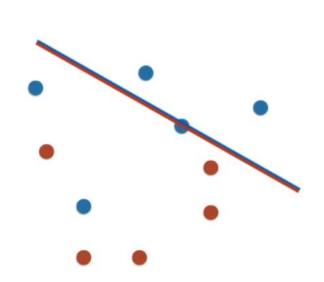
Step	Correct	Correct
0	0	5
1	1	5
2	2	5
3	2	4
4	3	4
5	4	4



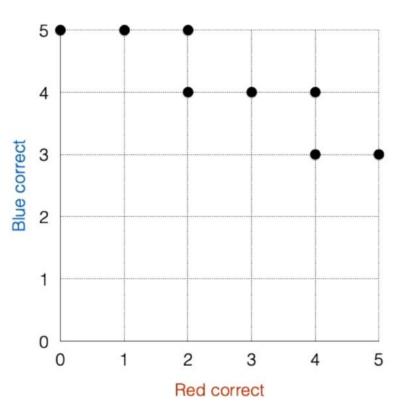


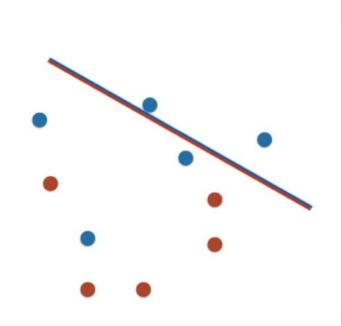


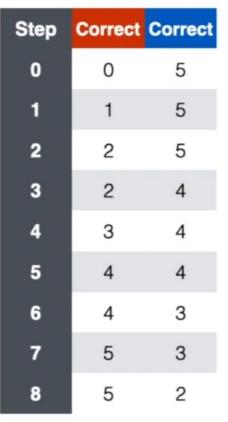


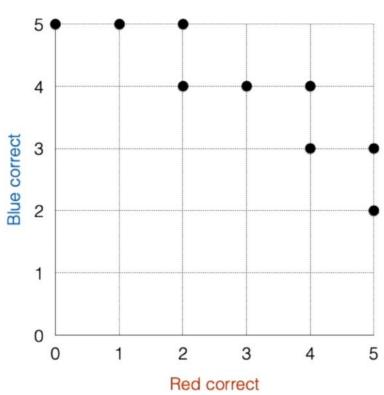


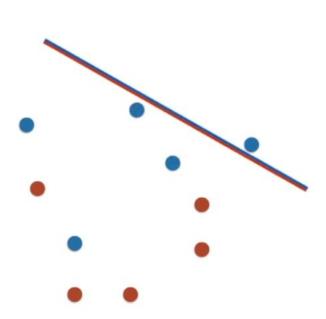
Step	Correct	Correct
0	0	5
1	1	5
2	2	5
3	2	4
4	3	4
5	4	4
6	4	3
7	5	3



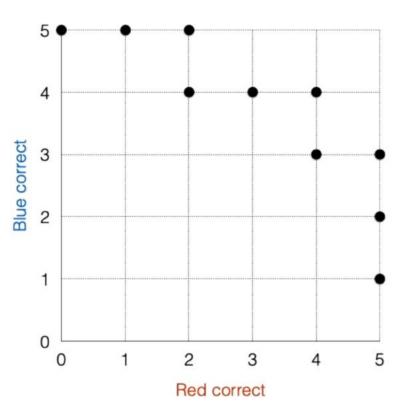


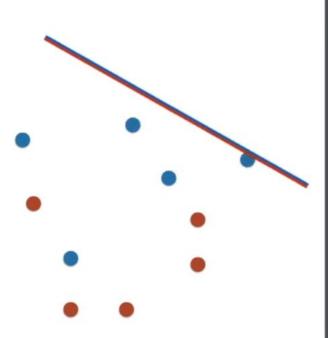




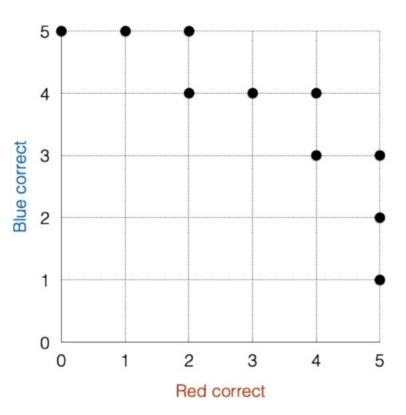


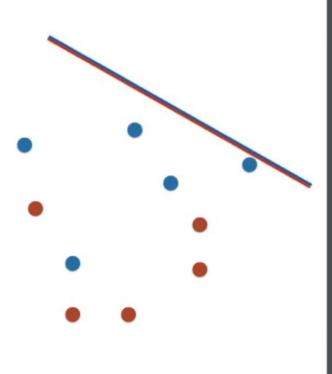
Step	Correct	Correct
0	0	5
1	1	5
2	2	5
3	2	4
4	3	4
5	4	4
6	4	3
7	5	3
8	5	2
9	5	1

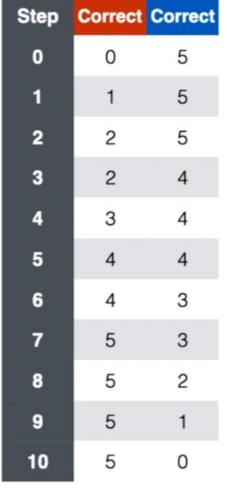


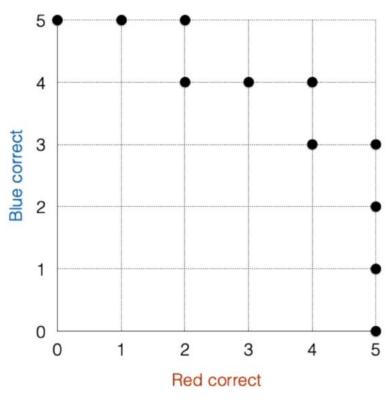


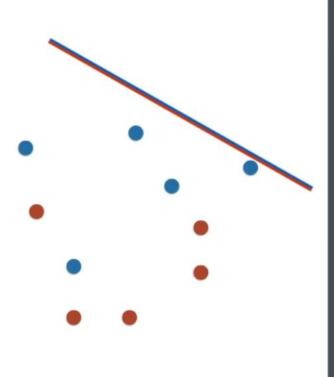
Step	Correct	Correct
0	0	5
1	1	5
2	2	5
3	2	4
4	3	4
5	4	4
6	4	3
7	5	3
8	5	2
9	5	1



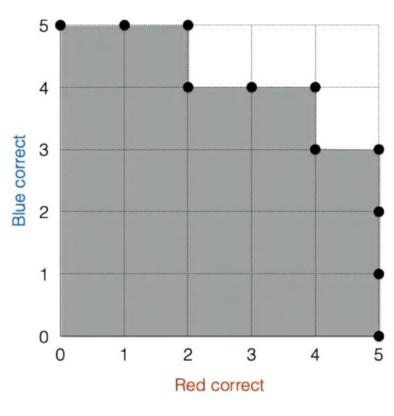


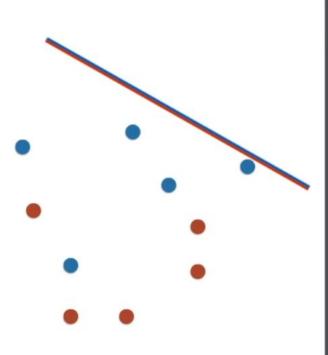


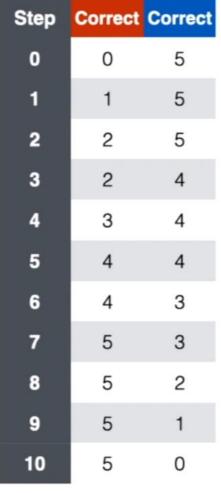


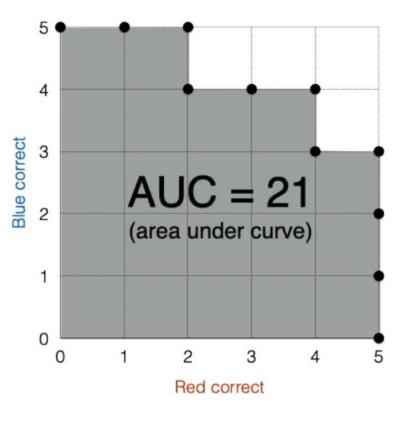


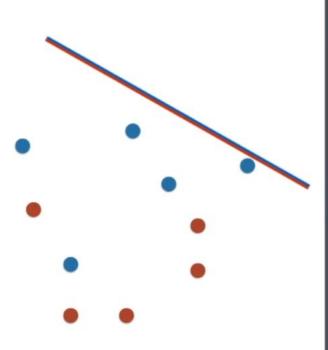




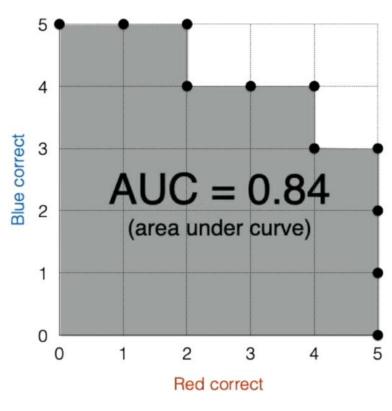


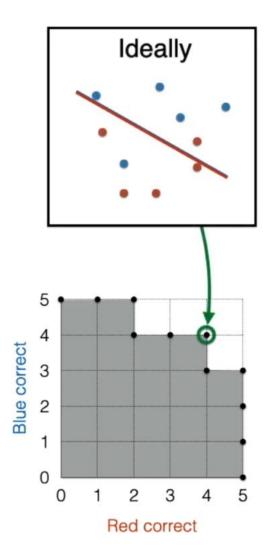


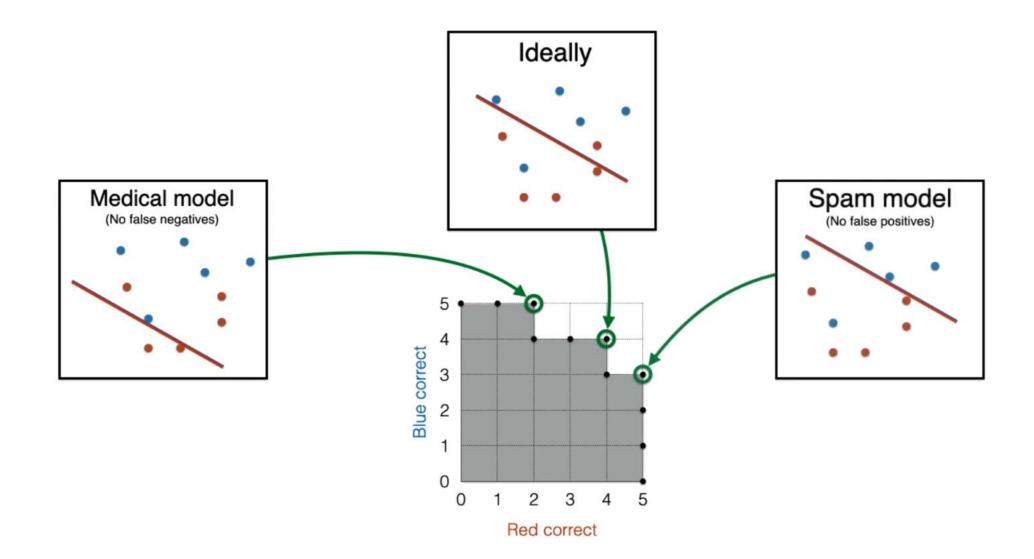


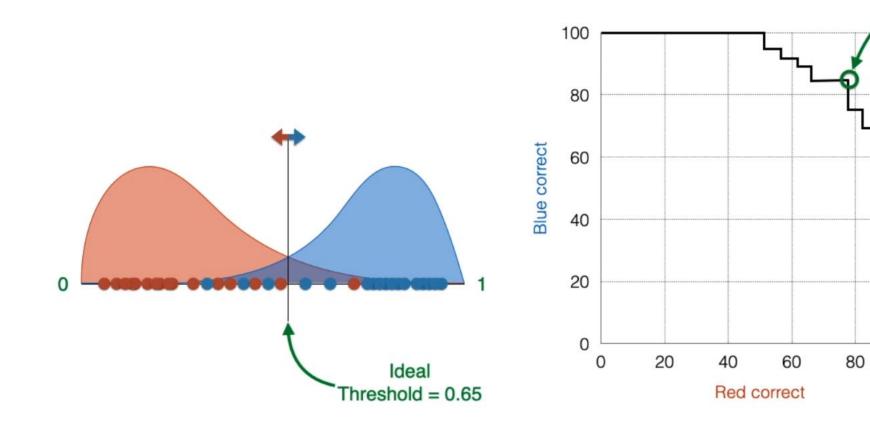






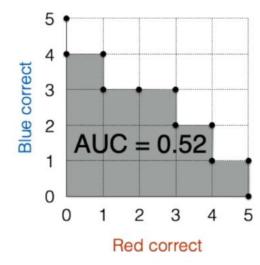


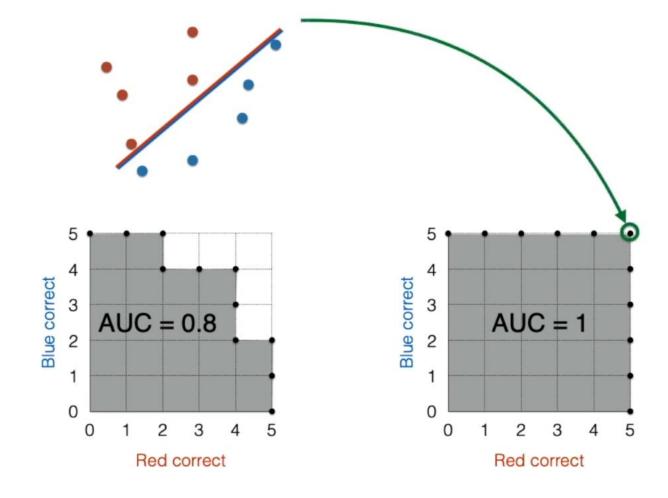




Ideal Threshold

100





Terrible model? 5 Blue correct AUC = 0 2 2 3 0 5 Red correct

Thank you!