



Gossip of A.I.

2017/09/25

iRonhead
evangelist

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T/F Positive Rate

Quality of Predictions

01

True Positive

I guess you had breakfast and you did have breakfast.

02

False Positive

I guess you had breakfast but you did not.

03

True Positive Rate

Among all of you who had breakfast, how many did I make correct guess?

04

False Positive Rate

Among all of you who had no breakfast, how many did I make wrong guess?

Receiver Operating Characteristic

ROC

	?
	?
	?
	?
	?
	?
	?
	?
	?
	?
	?

guess label

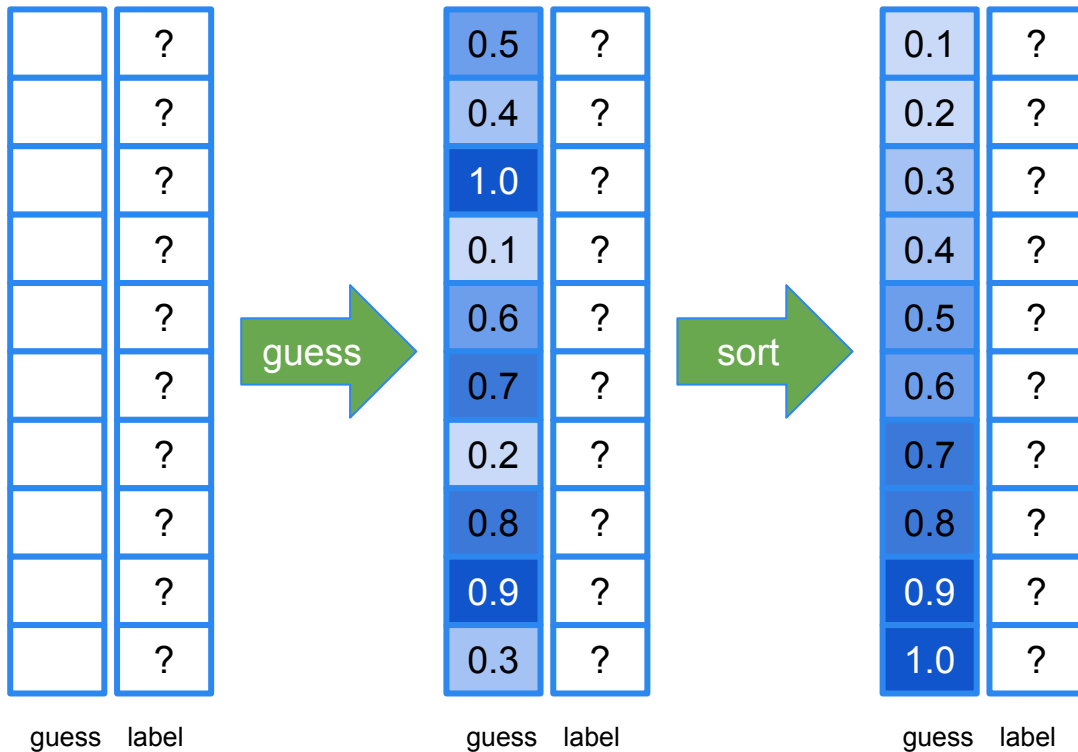
Receiver Operating Characteristic

ROC



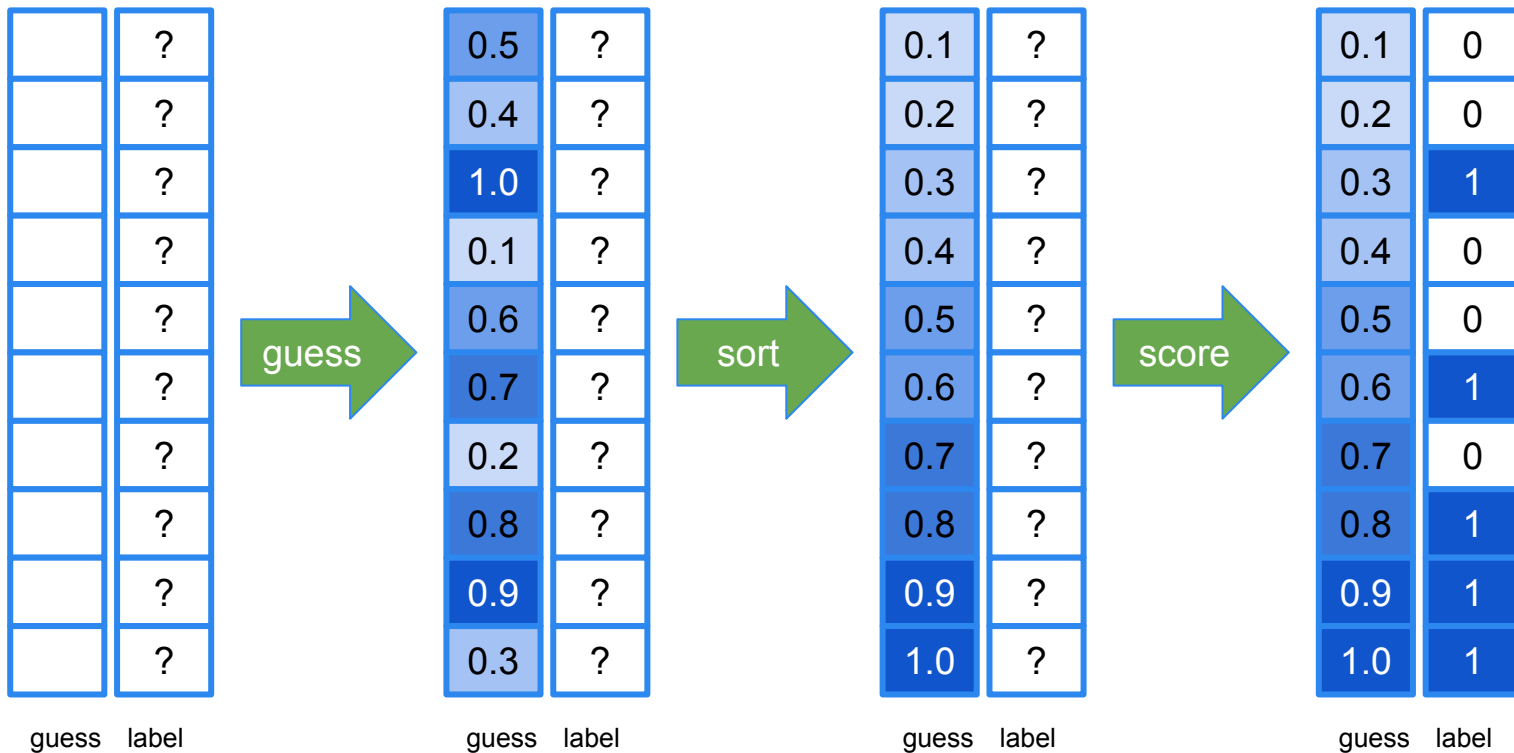
Receiver Operating Characteristic

ROC



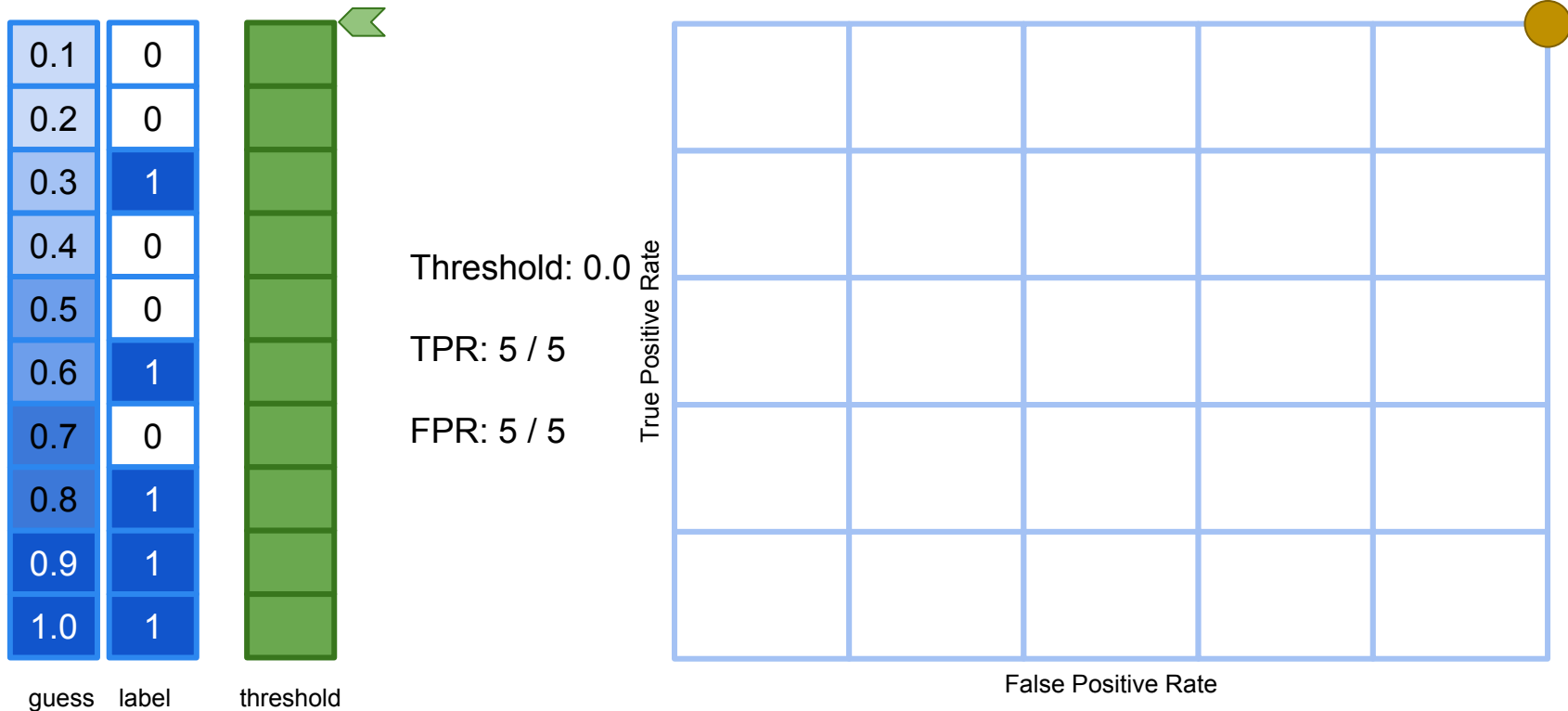
Receiver Operating Characteristic

ROC



Receiver Operating Characteristic

ROC



Receiver Operating Characteristic

ROC

0.1	0
0.2	0
0.3	1
0.4	0
0.5	0
0.6	1
0.7	0
0.8	1
0.9	1
1.0	1

guess

label



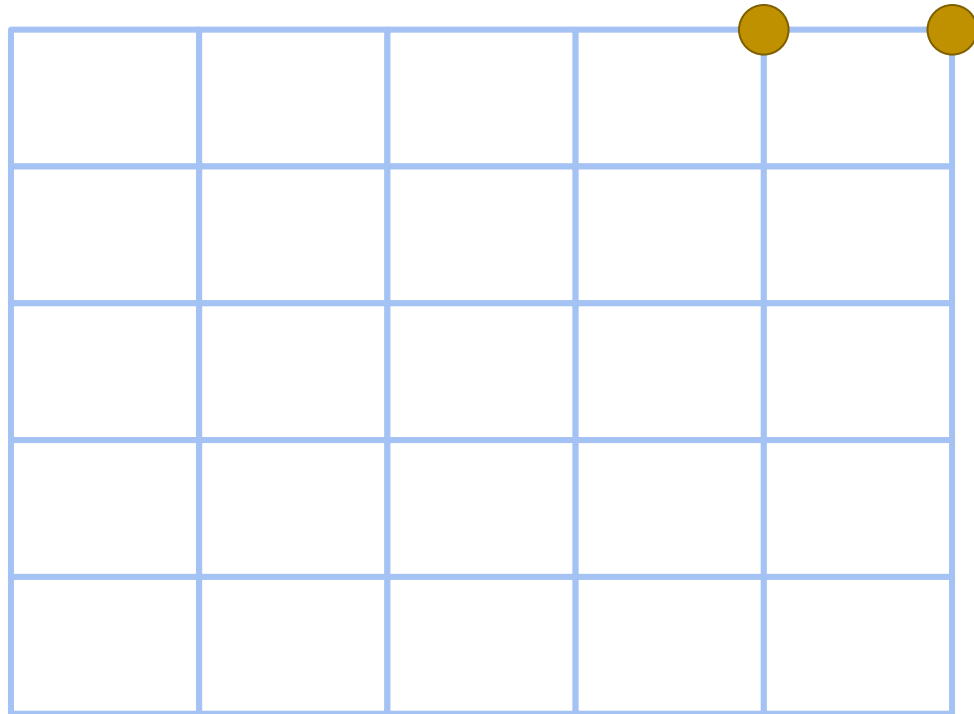
threshold

Threshold: 0.1

TPR: 5 / 5

FPR: 4 / 5

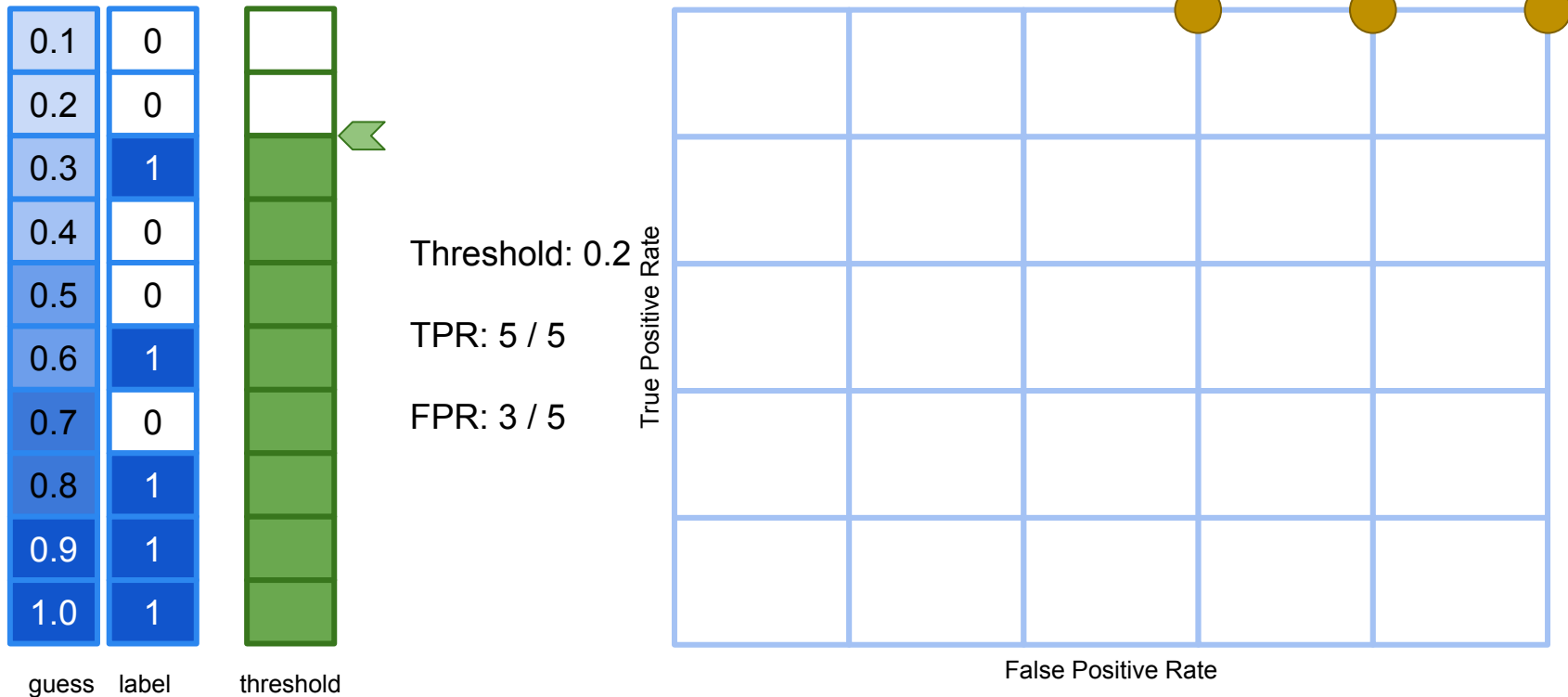
True Positive Rate



False Positive Rate

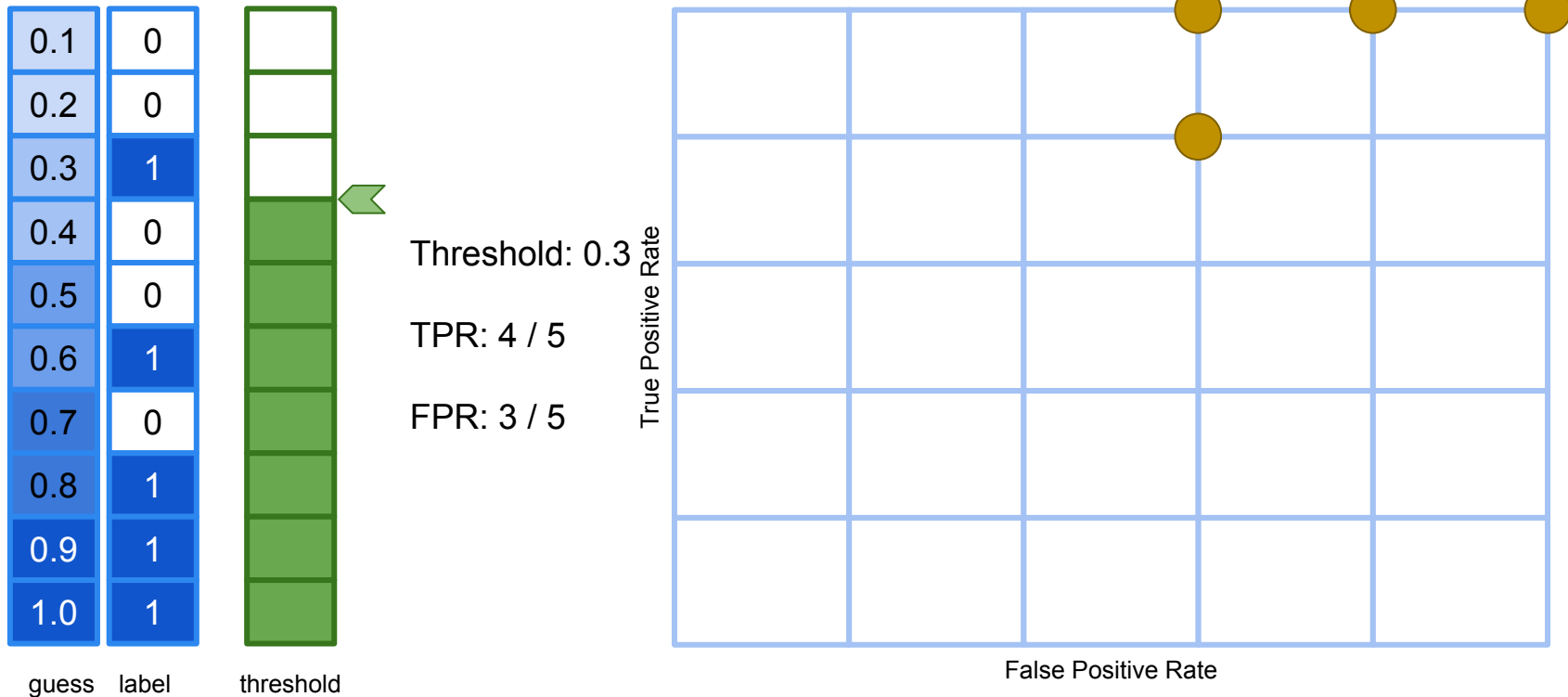
Receiver Operating Characteristic

ROC



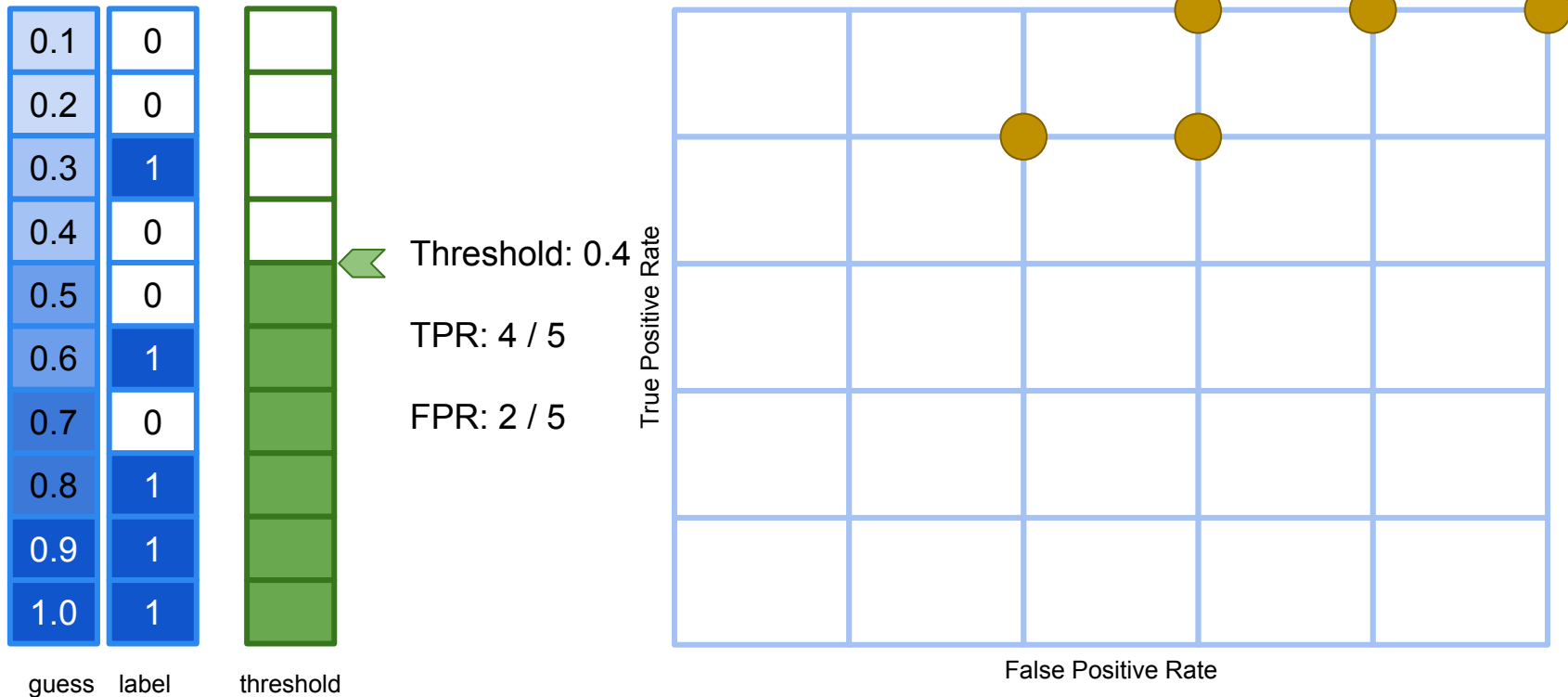
Receiver Operating Characteristic

ROC



Receiver Operating Characteristic

ROC

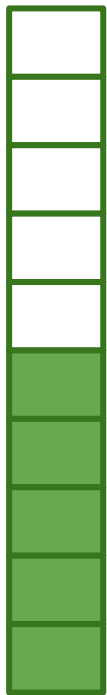


Receiver Operating Characteristic

ROC

0.1	0
0.2	0
0.3	1
0.4	0
0.5	0
0.6	1
0.7	0
0.8	1
0.9	1
1.0	1

guess label

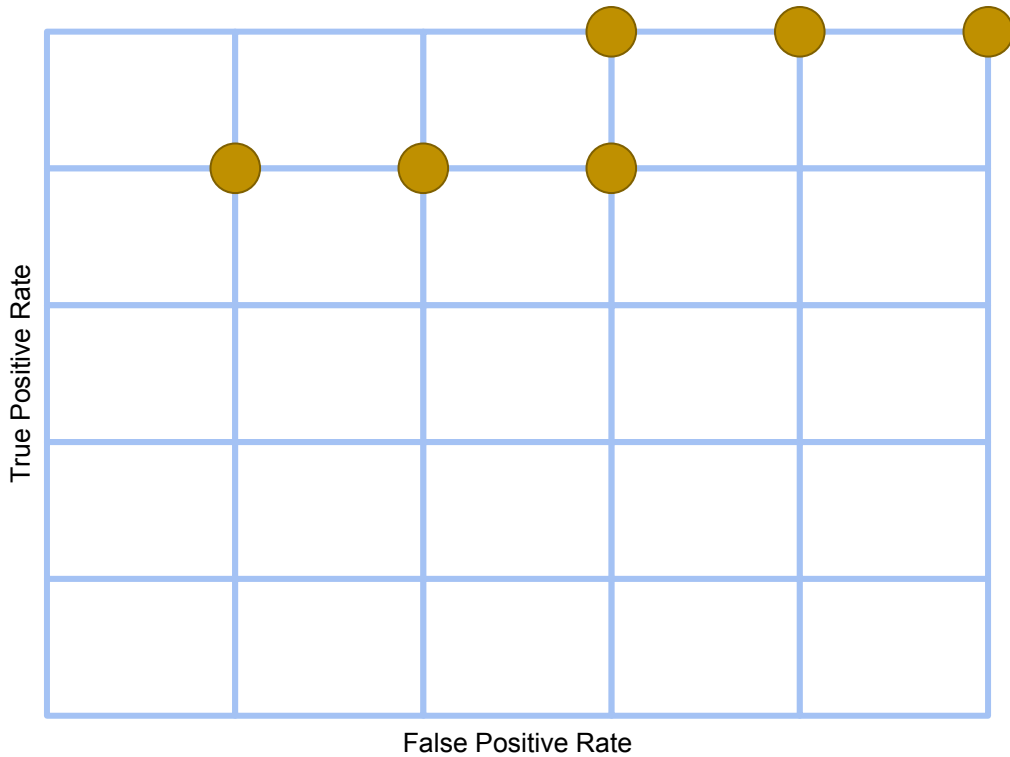


threshold

Threshold: 0.5

TPR: 4 / 5

FPR: 1 / 5

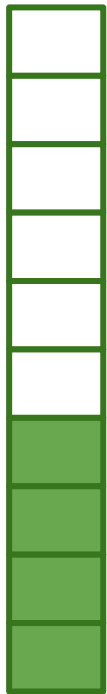


Receiver Operating Characteristic

ROC

0.1	0
0.2	0
0.3	1
0.4	0
0.5	0
0.6	1
0.7	0
0.8	1
0.9	1
1.0	1

guess label

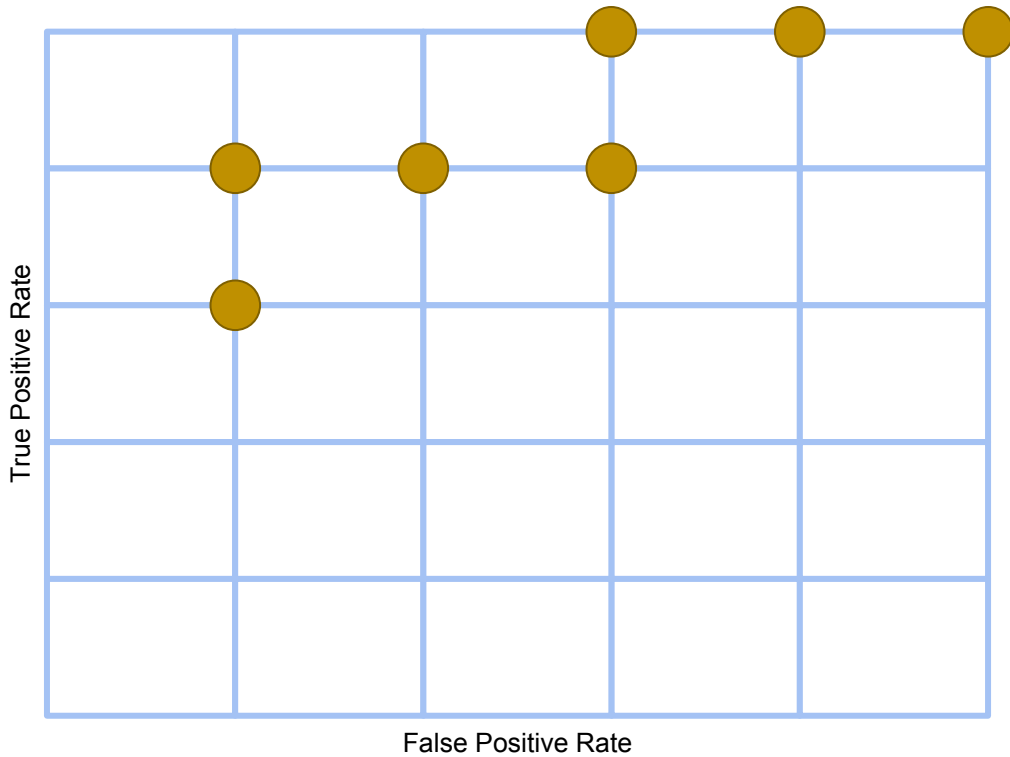


threshold

Threshold: 0.6

TPR: 3 / 5

FPR: 1 / 5



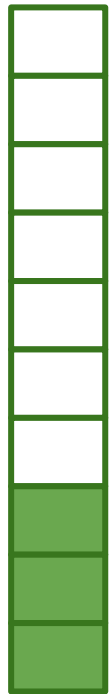
Receiver Operating Characteristic

ROC

0.1	0
0.2	0
0.3	1
0.4	0
0.5	0
0.6	1
0.7	0
0.8	1
0.9	1
1.0	1

guess

label

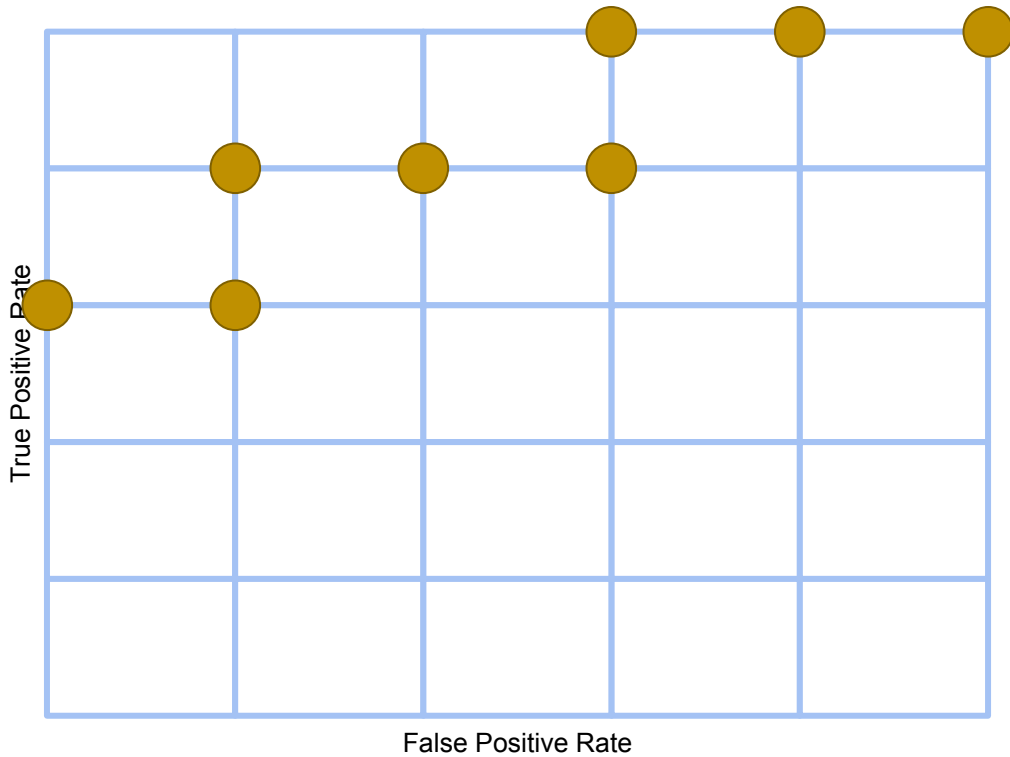


threshold

Threshold: 0.7

TPR: 3 / 5

FPR: 0 / 5



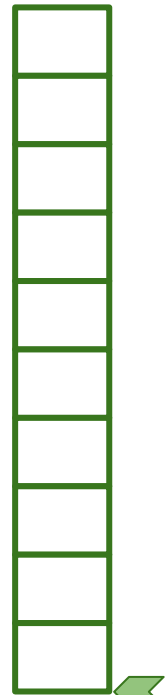
Receiver Operating Characteristic

ROC

0.1	0
0.2	0
0.3	1
0.4	0
0.5	0
0.6	1
0.7	0
0.8	1
0.9	1
1.0	1

guess

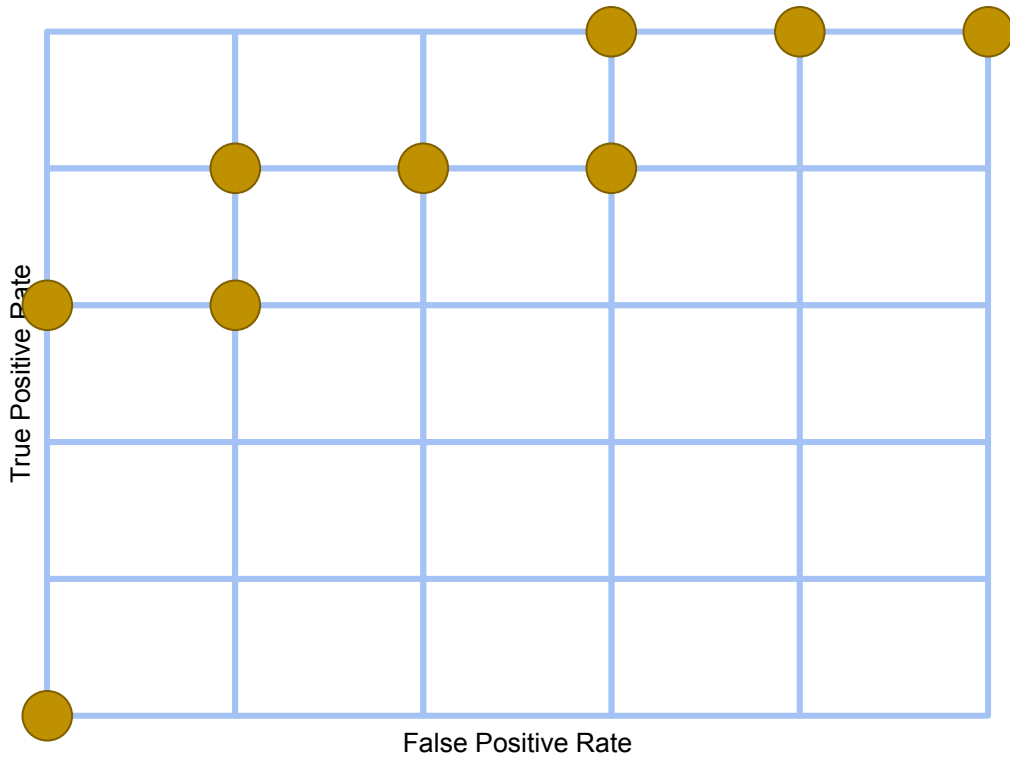
label



Threshold: 1.0

TPR: 0 / 5

FPR: 0 / 5



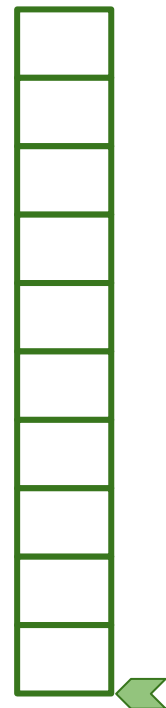
ROC Curve

ROC

0.1	0
0.2	0
0.3	1
0.4	0
0.5	0
0.6	1
0.7	0
0.8	1
0.9	1
1.0	1

guess

label

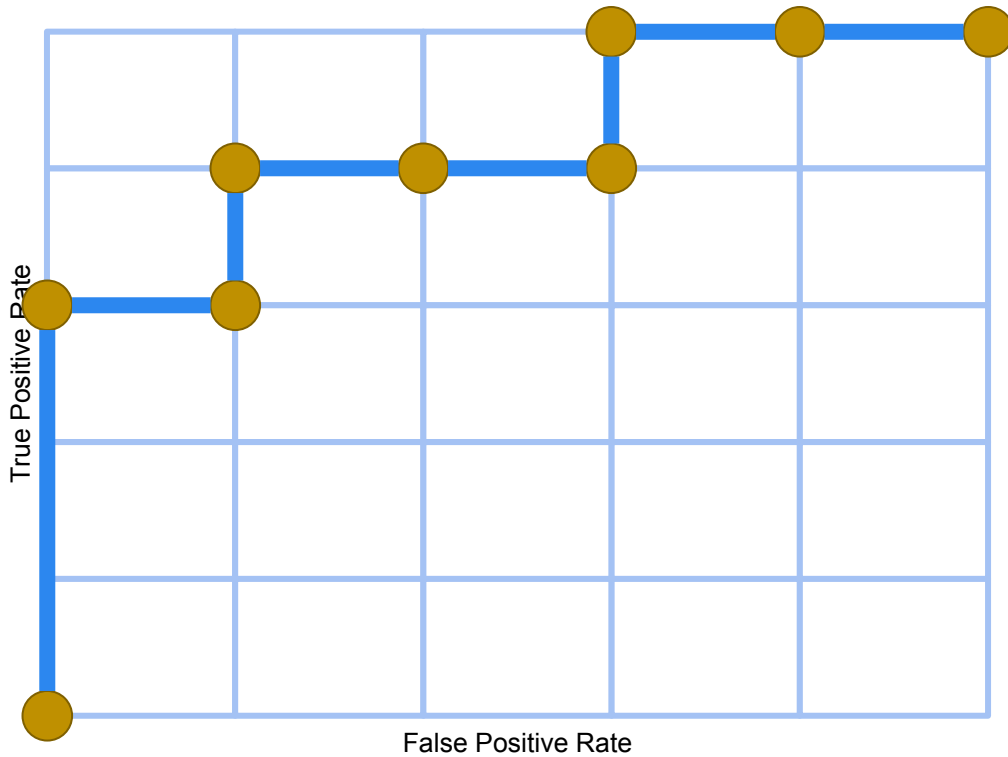


threshold

Threshold: 1.0

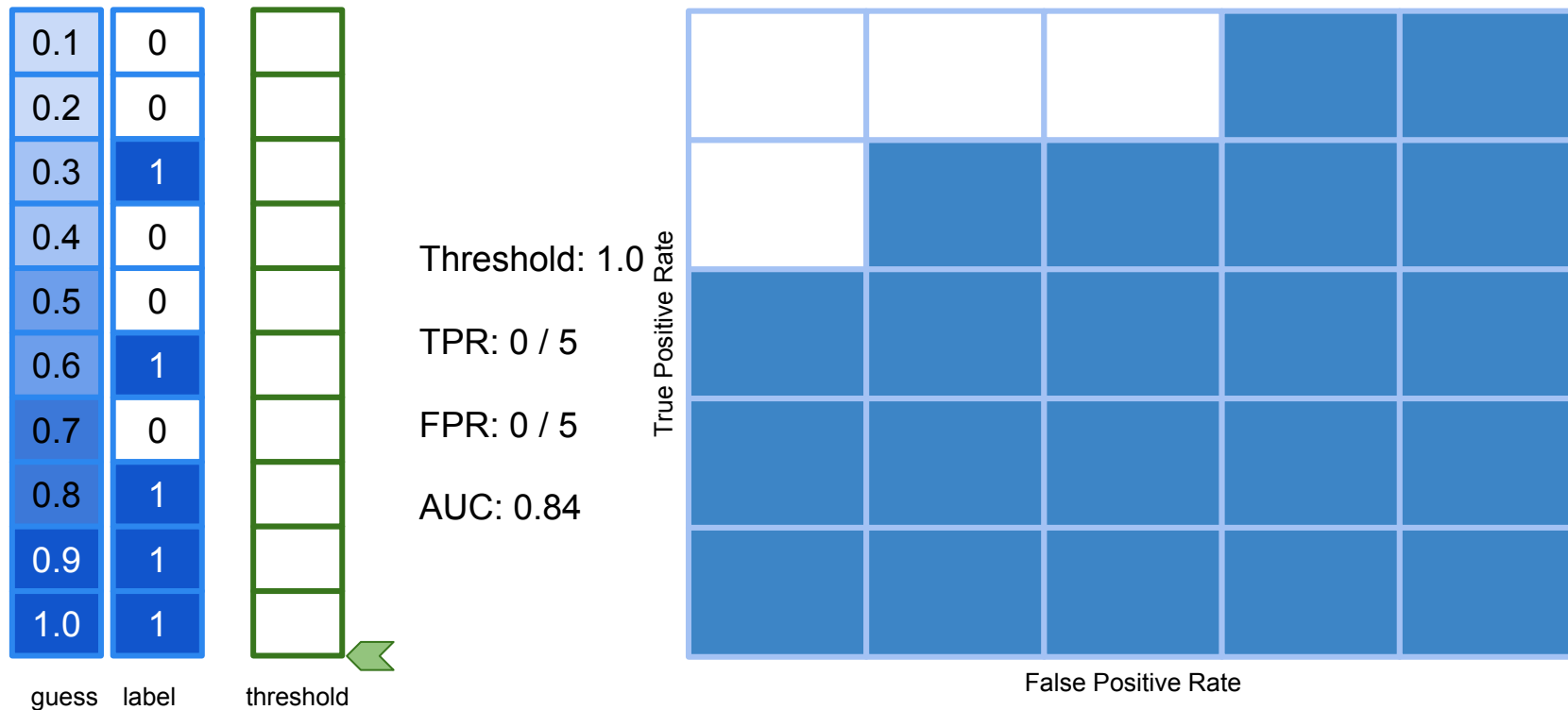
TPR: 0 / 5

FPR: 0 / 5



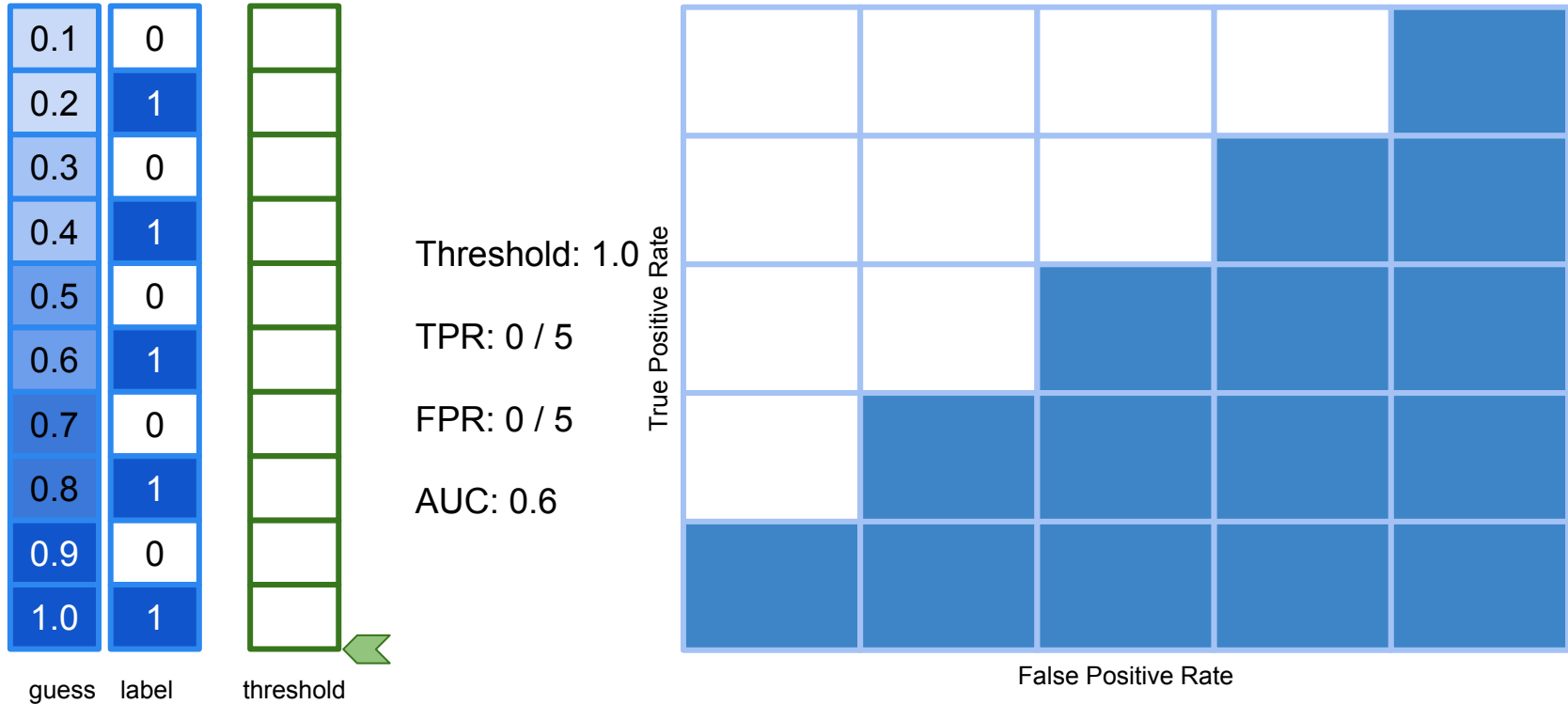
Area Under ROC Curve

AUC



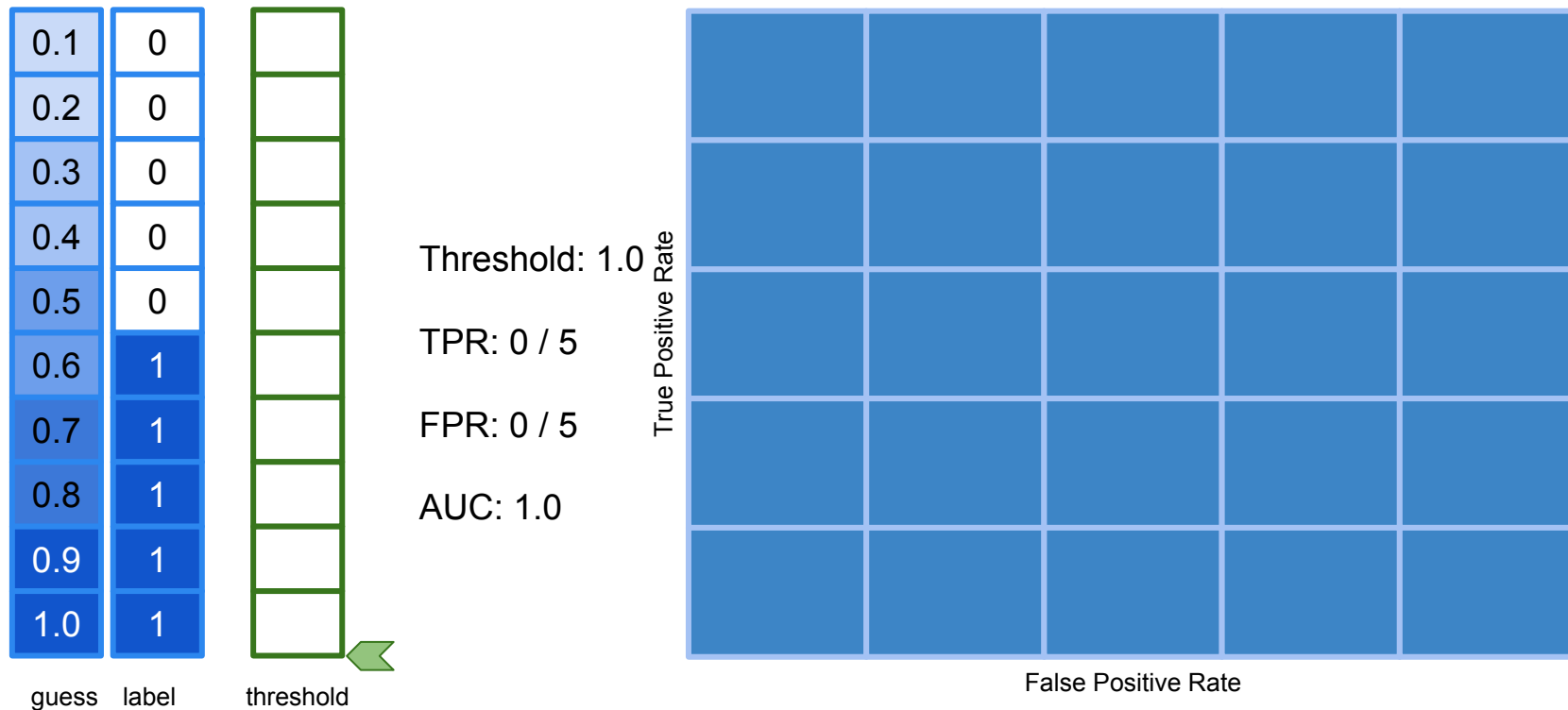
AUC of Random Guess

AUC



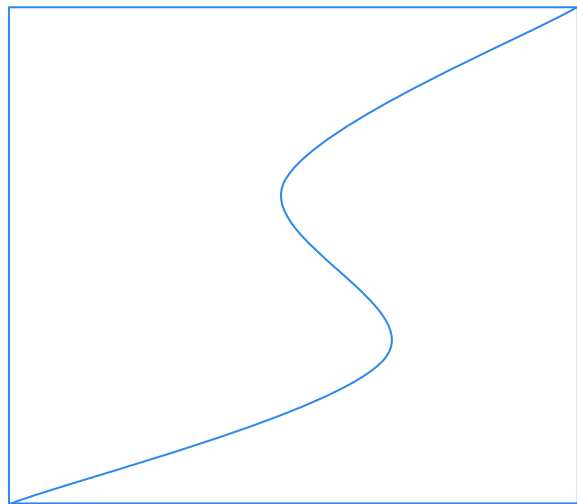
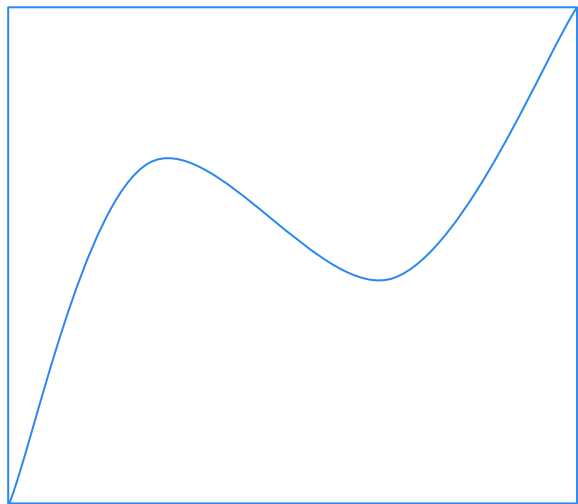
AUC of Awesome Features

AUC



Impossible ROC

Always Increasing





Thank You

Any Question?

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