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CS478 : Brother Christophe

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Assume that two individuals offer to sell you their predictive models M1 and M2. The confusion matrices produced by each model are as follows.

|  | **Predicted True** | **Predicted False** |
| --- | --- | --- |
| **Actually True** | 5 | 95 |
| **Actually False** | 10 | 90 |

 Performance of M1

|  | **Predicted True** | **Predicted False** |
| --- | --- | --- |
| **Actually True** | 85 | 15 |
| **Actually False** | 95 | 5 |

Performance of M2

1. **What is the accuracy of each model?**

M1: (5+90) / (5+10+95+90) == 95 / 200 = 47%

M2: (85+5) / (85+5+15+95) == 90 / 200 = 45%

1. **Assuming that precision is of paramount importance in your application, which of the two models would you buy? Why?**

Precision = a/(a+c)

M1: 5 / (5+10) = 33%

M2: 85 / (85+95) = 47%

I would buy M2 because it offers me 14% more precision than M1.

1. **Assuming that the cost of labeling as True something that is actually False far exceeds the cost of labeling as False something that is actually True, which of the two models would you buy? Why?**

False Positive Rate: Not sure if this should be divided by 200?

M1: 10 / (100) = 10%

M2: 95 / (100) = 95%

I would buy M1 because it has a lower false positive rate.