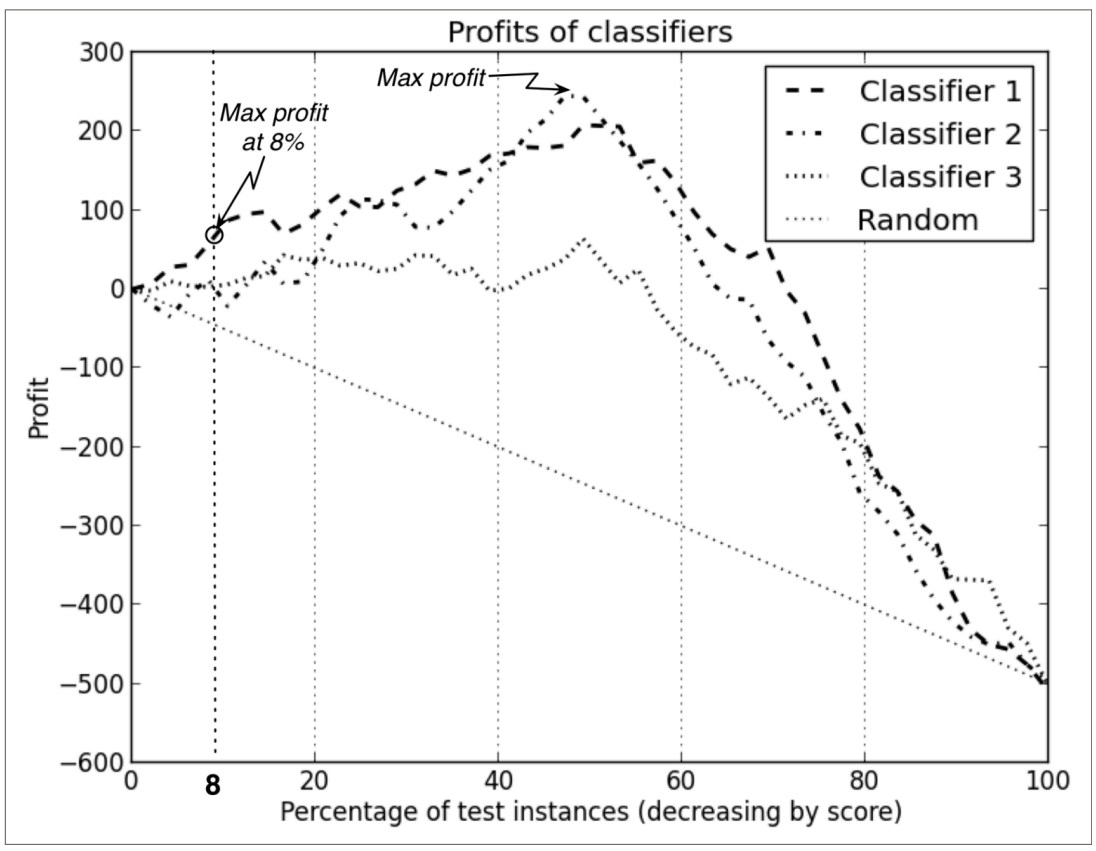
Chapter 8 Visualizing Model Performance

1/22/20 7:40 PM

Profit Curve

Provide ranking for different thresholds. Different models may perform differently at different base rate.



Example: if budget is $40000, each target costs $5. We have at most 8000 customers available to reach out. Given total population is 100,000, the targeting rate is 8%. Model 1 performs best among the three.

Conditions for using profit curve:

1. Class prior (base rate) should be known and expected to be stable. The expected value of profit for each instance is sensitive to base rate.
2. Costs and benefits must be available in order to calculate profit

Receiver Operating Characteristics (ROC)

- True positive rate (y axis) v.s. False positive rate (x axis)
- (0,0): all instances classified as negative, so TPR = FPR = 0
- (1,1): all instances classified as positive, so TPR = FPR = 1
- Diagonal line: random guessing, with different probability of assigning positive class
- When moving classification threshold (score), each point on ROC is generated