PadhAI: Probability Theory

One Fourth Labs

Certain Events

Events with 100% probability

1. We need something better than the squared error loss
2. Consider the scenario of a random variable X that maps to the winner in a tournament of 4 teams: A, B, C, D
3. We stop watching after the semi-finals, so we are unaware of the outcome, but in truth, team A has won, thus it is a certain event, with probabilities (P(A) = 1, P(B) = 0, P(C) = 0, P(D) = 0).

X	P(X=x) True distribution, unknown to us.	$\hat{Y}$ Predicted by us
A	1 (Certain event)	0.6
B	0	0.2
C	0	0.15
D	0	0.15

4. Before the tournament's completion, based on the point we have watched till(Semi-finals), we can predict the probabilities of each team's chance at victory (P(A) = 0.6, P(B) = 0.2, P(C) = 0.15, P(D) = 0.15)