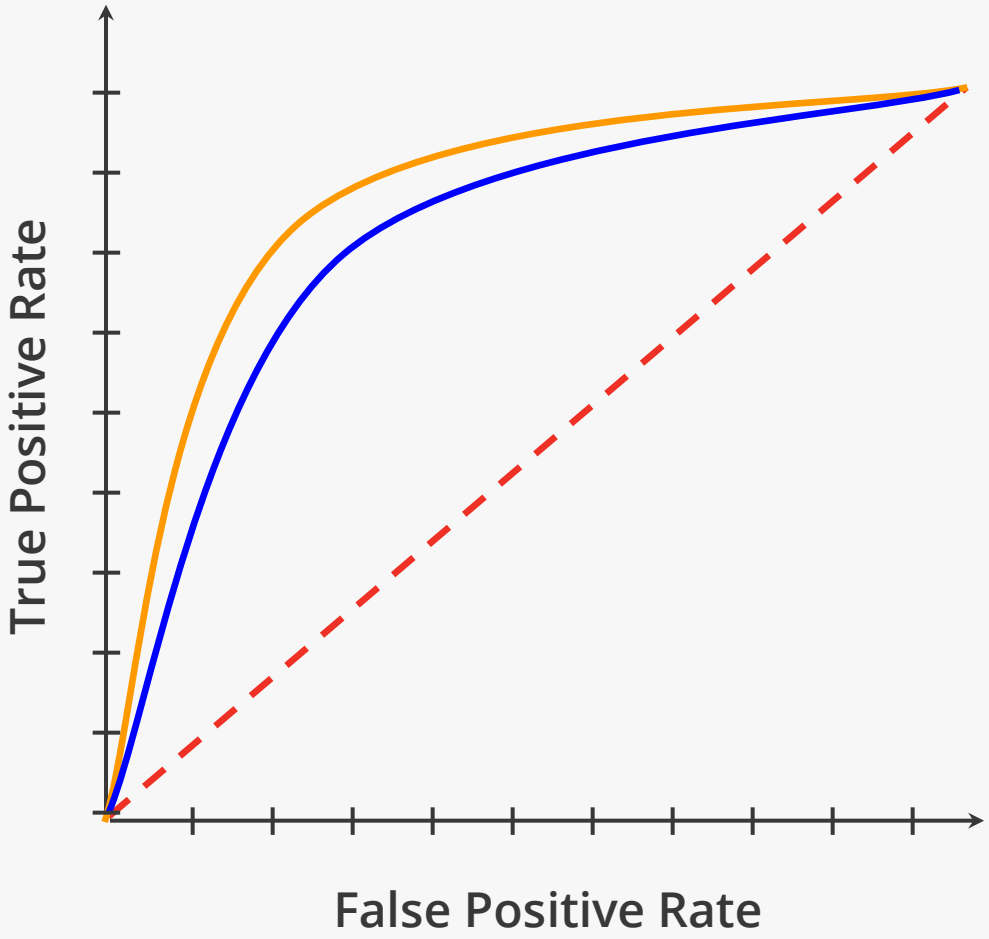
ROC Curve

Receiver Operating Characteristic

ROC Curve plots **TPR** against **FPR** at various thresholds, separating **signal** from **noise**.

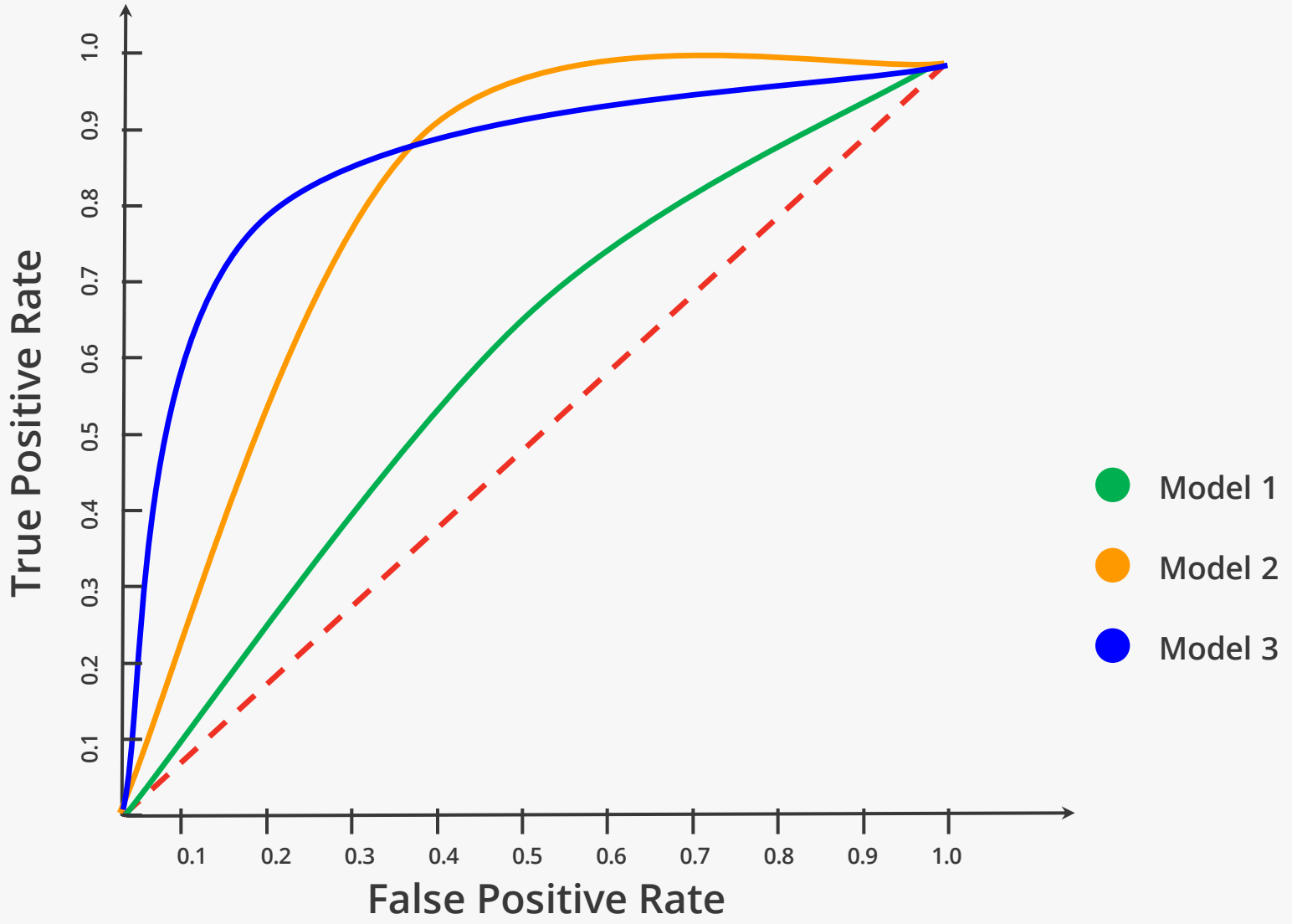


ROC Curve: Synergix

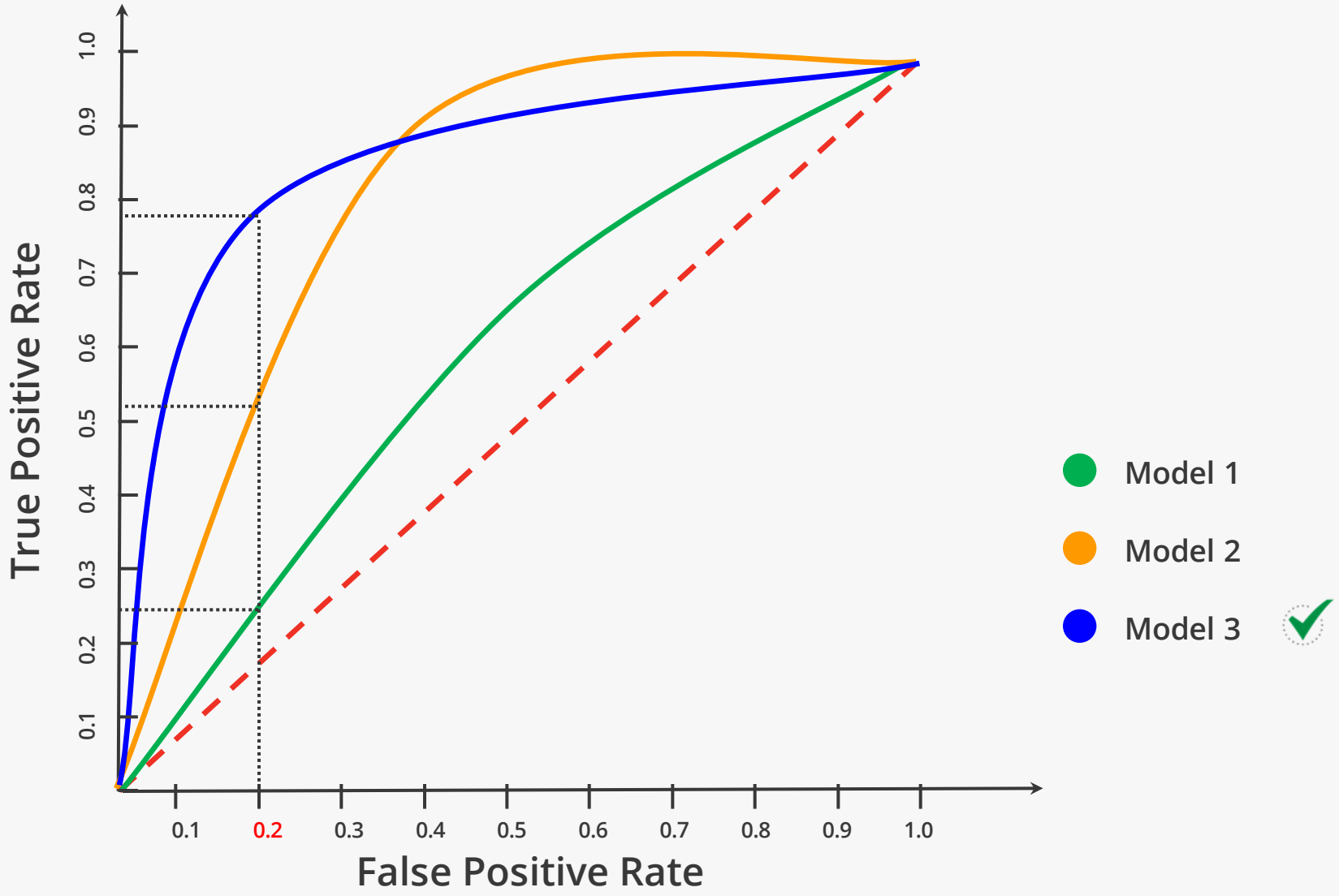
$$\text{TPR (Recall)} = \frac{\text{Number of samples correctly predicted by model to sell > 1000 units}}{\text{Total number of samples which actually sold > 1000 units}}$$

$$\text{FPR} = \frac{\text{Number of samples wrongly predicted by model to sell > 1000 units}}{\text{Number of samples which actually sold < 1000 units}}$$

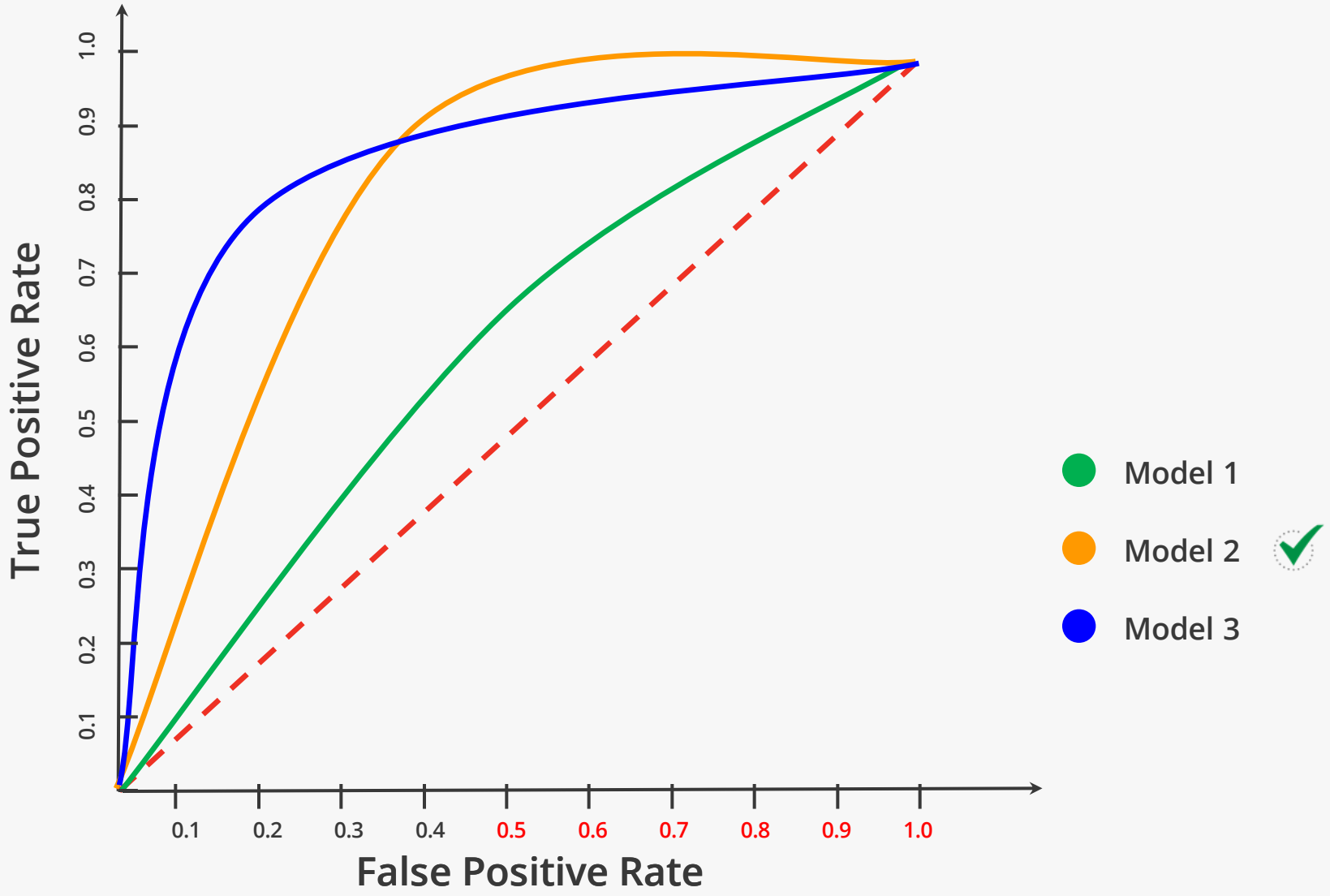
ROC Curve


True Positive Rate
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
False Positive Rate
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Model 1
Model 2
Model 3

ROC Curve

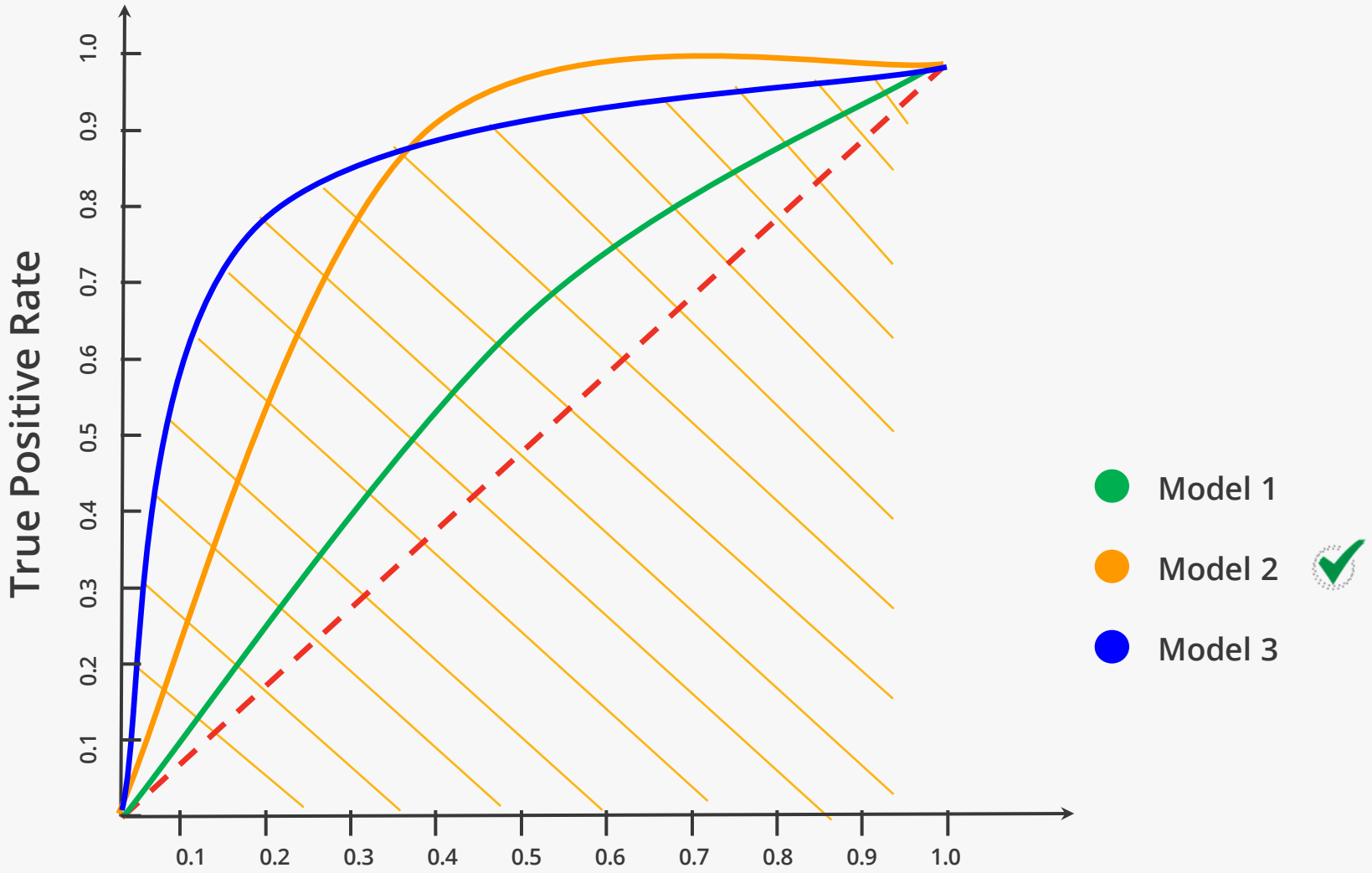
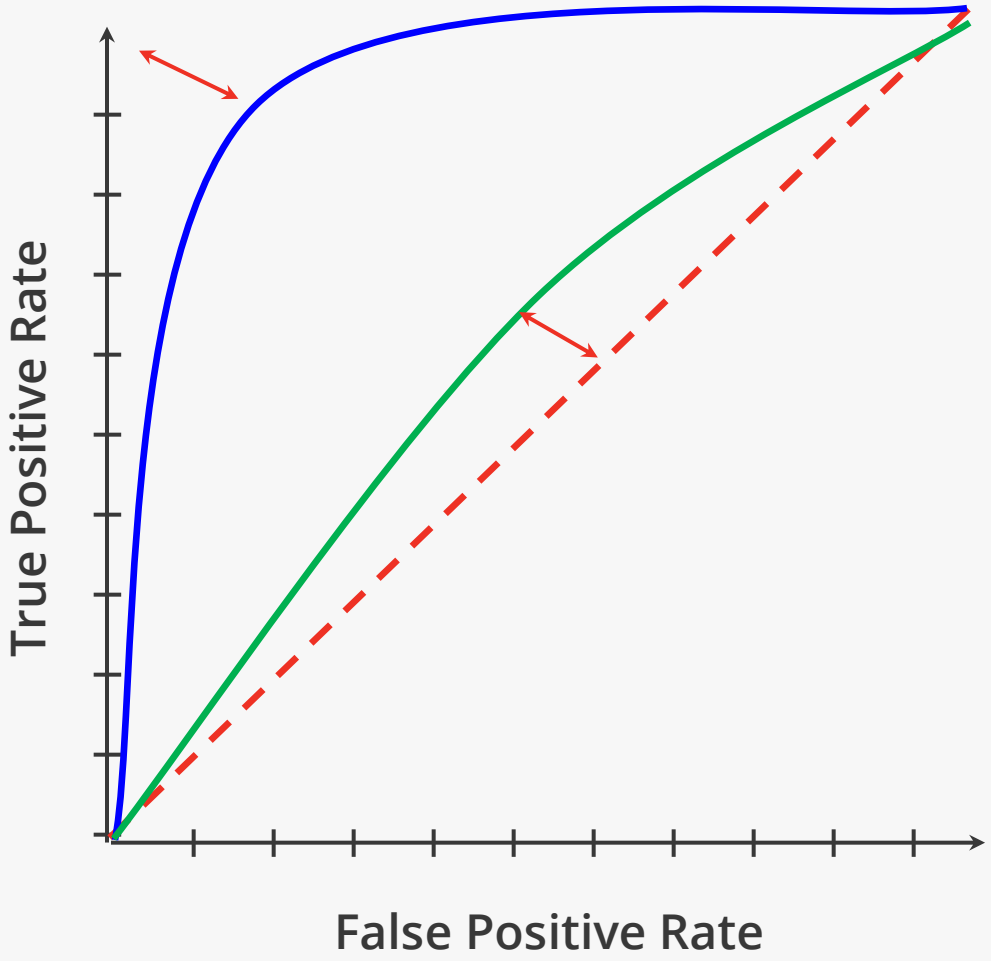

True Positive Rate
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
False Positive Rate
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Model 1
Model 2
Model 3

ROC Curve


True Positive Rate
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
False Positive Rate
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Model 1
Model 2
Model 3

AUC-ROC Score

Area Under Curve



Ideal ROC Curve