

DAUP

You are training a binary classification model & we got accuracy of 90%. The test size is 20 samples (not from train data nor from test data) what is the probability model will classify at least 18.

$$\binom{20}{18} \left(\frac{1}{2}\right)^{18} \left(\frac{1}{2}\right)^2$$

$$(0.9)^{18} (0.1)^2$$

$$P(X=16) = 0.1681$$

$$P(X=17) = 0.2852$$

$$P(X=18) = 0.2852$$

$$P(X=19) = 0.1901$$

$$P(X=20) = 0.1216$$

$$P(X \geq 16) = 0.1681 + 0.2852 +$$

$$0.2852 + 0.1901 +$$

$$0.1216$$

$$= 1.0502$$