Activity-9

2203A52183

a) $n = 20$
$k = 18$
$P \rightarrow 90\% = 0.9$

$= \binom{20}{18} (0.9)^{18} (1-0.9)^{(20-18)}$

$= \frac{20!}{(20-18)!\,18!} (0.9)^{18} (1-0.9)^{(20-18)}$

$= 0.285$

b) $P(x >= 17) = P(x=17) + P(x=18) + P(x=19) + P(x=20)$

$= 0.8670$

$= 86.70\%$.

c) $P(x >= 17)$ where low, the model would be unreliable & require retraining.

→ At high probability (86.7%.) means the model performs well & may not need immediate improvement.

a) y - Binomial $(n=50, P=0.2)$

$P(Y=10) = \binom{50}{10} (0.2)^{10} (0.8)^{40}$

$P(Y=10) = 0.1398 = 13.98\%$

b) $P(Y \leq 15) = \sum_{k=0}^{15} P(Y=k) = 0.9692 (96.92\%)$

c) If dropout is increased to 0.3 the probability of exactly 10 neurons being dropped decreases

$P(Y=10) = 0.0386 (93.86\%)$.