

Sample variance

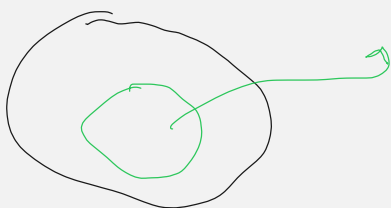
$$s^2 = \sum_{i=1}^n \frac{(x - \bar{x})^2}{n-1} \quad ??$$

$$\sigma^2 = \sum_{i=1}^N \frac{(x - \mu)^2}{N}$$

n = sample data

\bar{x} = sample mean

important
interviews



Inferences

Age = {.....}

sample mean

$$\bar{x} \approx \mu$$



$$\bar{x} < \mu$$

$$s^2 < \sigma^2$$

$$Dof = n - 1 \quad \checkmark$$

$$s^2 \approx \sigma^2$$

$$s^2 = \sum_{i=1}^n \frac{(x - \bar{x})^2}{n} \quad \text{Bessel correction } (n-1)$$

underestimating the true population variance

when use $n-1$
the gap reduce
underestimating the true population variance