

STANDARDISE

29/09/2021

$$X_i \stackrel{i.i.d}{\sim} N(\mu, \sigma^2) \\ i = 1, \dots, n$$

$$\frac{\sqrt{n}(\bar{X}_n - \mu)}{\sigma} \sim N(0, 1)$$

PADRONIZAÇÃO σ

MAS E QUANDO σ É DESC?

$$\hat{\sigma}_{GENV} = \sqrt{\hat{\sigma}_{GENV}^2}$$

DEFINA:

$$\hat{\sigma}^2 = \frac{\sum_{i=1}^n (X_i - \bar{X}_n)^2}{n-1}$$

$$\frac{\sqrt{n}(\bar{X}_n - \mu)}{\hat{\sigma}}$$

$$f_A(a) \quad f_B(b)$$

DBS. TOME V.A.S A e B

$$\epsilon \text{ DEFINA } R := \frac{A}{B} \quad r = \frac{a}{b} \\ a = r \cdot b$$

$$f_R(r) = \int_{-\infty}^{\infty} |b| f_{A,B}(r \cdot b, b) db$$

$$X^Z = \frac{Z}{\sqrt{\frac{1}{n} \sum_{i=1}^n X_i^2}} = \frac{\sqrt{n} Z}{\sqrt{\sum_{i=1}^n X_i^2}} = \frac{Q}{\chi^2}$$

Q ~ N(0,1) χ^2 ~ χ^2_{n-1}

INTERVALOS DE CONFIANÇA \neq

BAYES (CREDIBILIDADE)

$$x, \pi(\theta) \quad f(x|\theta)$$

$$p(\theta|x) = \frac{f(x|\theta) \pi(\theta)}{m(x)}$$

$$\hat{I} = (a(x), b(x)) : \quad \int_{a(x)}^{b(x)} p(t|x) dt = \alpha$$

$\Rightarrow \hat{I}$ é um INTERVALO DE

CREDIBILIDADE

DE $\alpha \cdot 100\%$.

PARA θ .

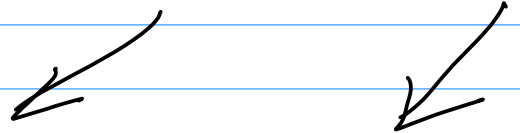
$$\hat{I}_{HPD} = \underset{b-a}{\arg\min} \left\{ a < b : \int_a^b p(t|x) dt \right\}$$

HIGHEST POSTERIOR
DENSITY

~~$$P_r(\theta < 3) = \frac{1}{2}$$~~

$$A_j(\underline{x}) = \bar{x}_n - \frac{c(k,n)\sigma^2}{\sqrt{n}}$$

A, b



$$I(\underline{x}) = (A(\underline{x}), b(\underline{x}))$$

\oplus

$= \vee$

$$\underline{x} = \underline{x}$$

$$A(\underline{x}) = a(\underline{x}) \quad i(\underline{x}) = a(\underline{x})$$

$$b(\underline{x}) = b(\underline{x})$$

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