MLinex

Bayes

*

$$f(x;a,\lambda) = \lambda a^{\lambda} x^{\lambda}, \quad x \le a$$
$$F(x;a,\lambda) = a^{\lambda} x^{\lambda}, \quad x \le a$$

a λ a λ RP $a\,\lambda$

$$L\ \lambda\ \theta \quad \omega\left[\left(\frac{\theta}{\lambda}\right)^{c} \quad c \quad \frac{\theta}{\lambda} \quad\right]\ \omega \quad c$$

θ λ

c c c

X X X_n RP $a\,\lambda$ a λ

X X X X_n x x x_n RP $a\,\lambda$ a λ

$$\lambda_{MLE} \quad n\left(\sum_{i}^{n} \frac{a_{MLE}}{x_i}\right)$$

a_{MLE} $\{x_i\}$ x_n

$$\lambda_{MAP} \quad \frac{n \quad \beta}{\gamma \quad t}$$

t $\overset{n}{\underset{i}{}}$ x_i a $\Gamma(\beta\gamma)$ $\beta\gamma$ β γ

λ $\Gamma(\beta\gamma)$ $\beta\gamma$ β γ $p\ X|\lambda$

X X X_n λ

$$\pi(\lambda) \quad \frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{\beta} \quad e^{\gamma\lambda}$$

$p\ X|\lambda$ $\overset{n}{\underset{i}{}}$ $\lambda a^{\lambda}x^{\lambda}$ $\lambda^{n}a^{n\lambda}\overset{n}{\underset{i}{}}\left(x_i^{\lambda}\right)$ $\frac{\lambda^{n}}{\overset{n}{\underset{i}{}}x_i}e^{\lambda t}$ t $\overset{n}{\underset{i}{}}$ x_i a

$$p\ X|\lambda\ \pi\ \lambda \quad \frac{\lambda^{n}}{\overset{n}{\underset{i}{}}x_i}e^{\lambda t}\frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{\beta} \quad e^{\gamma\lambda} \quad \frac{\gamma^{\beta}}{\Gamma(\beta)\overset{n}{\underset{i}{}}x_i}\lambda^{n\ \beta} \quad e^{\gamma\ t\lambda}$$

λ λ λ λ

λ $p\ X|\lambda\ \pi\ \lambda$

$g\ \lambda$ $\lambda^{n\ \beta}$ $e^{\gamma\ t\lambda}$ $p\ X|\lambda\ \pi\ \lambda$ λ

$g\ \lambda$ λ $g\ \lambda$ $g\ \lambda$ $g\ \lambda$

$\lambda^{n\ \beta}$ $e^{\gamma\ t\lambda}$ $g\ \lambda$ $g\ \lambda$

$g\ \lambda$ λ

$$\left(\quad g\ \lambda\ \right)' \quad \frac{n \quad \beta}{\lambda} \quad \gamma \quad t$$

λ

$$\lambda_{MAP} \quad \frac{n \quad \beta}{\gamma \quad t}$$

λ

λ

λ

a λ

X X X_n RP $a\ \lambda$ a λ

X X X X_n x x x_n

π

$$R\ \lambda\ X\ |X \qquad \omega\left[\left(\frac{\lambda\ X}{\lambda}\right)^{c}\ \ c\ \ \frac{\lambda\ X}{\lambda}\right]p\ X|\lambda\ \pi\ \lambda\ d\lambda$$

$p\ X|\lambda\ \pi\ \lambda$ λ X $X\ X$ X_n

$\lambda\ X$

$$\lambda_B(X) \quad \left(E\left(\lambda^{\ c}|X\right)\right)^{\frac{1}{c}} \quad \frac{\left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\frac{1}{c}}}{\gamma \quad t}$$

$\Gamma(\beta\gamma)$ λ $\pi\ \lambda$

$$\pi(\lambda) \quad \frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{\beta} \quad e^{\ \gamma\lambda}$$

$RP\ \ a\ \lambda$ $f\ \ x \quad a\ \lambda \quad \lambda a^{\ \lambda}x^{\lambda}$ $x \quad a\ \lambda$

$$L\ \ X|\lambda \quad {}_{i}^{n} \quad \lambda a^{\ \lambda}x^{\lambda} \quad \lambda^{n}a^{\ n\lambda}{}_{i}^{\ n}\left(x_i^{\ \lambda} \quad\right) \quad \frac{\lambda^{n}}{{}_{i}^{n}\ x_i}e^{\lambda t}\ \ t \quad {}_{i}^{n} \quad x_i \quad a$$

λ

$$\pi(\lambda|X) \quad \frac{L\ \ X|\lambda\ \ \pi\ \ \lambda}{\int_{\ }^{\infty} L\ \ X|\lambda\ \ \pi\ \ \lambda\ \ d\lambda}$$

$$\frac{\frac{\lambda^{n}}{{}_{i}^{n}\ x_i}e^{\lambda t}\frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{\beta} \quad e^{\ \gamma\lambda}}{\int_{\ }^{\infty}\frac{\lambda^{n}}{{}_{i}^{n}\ x_i}e^{\lambda t}\frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{\beta} \quad e^{\ \gamma\lambda}d\lambda} \quad \frac{\frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{n \ \ \beta} \quad e^{\ \gamma \ \ t\ \lambda}}{\frac{\gamma^{\beta}}{\Gamma(\beta)}\int_{\ }^{\infty}\lambda^{n \ \ \beta} \quad e^{\ \gamma \ \ t\ \lambda}d\lambda}$$

λ^{b} B(4` ƒF e YrvÁÁÀ A[7– € ' YU$@† È

$$\lambda_{EB} \quad {}_{D}\lambda_{B}(a\ b)f(a\ b)dadb$$

λ ${}_{D}\lambda_{B}(a\ b)f(a\ b)dadb$ D a b $f(a\ b)$ a b D $\lambda_{B}(a\ b)$ λ λ

$$\lambda_{EB} \quad {}_{D}\lambda_{B}(a\ b)f(a\ b)dadb \quad E\left[\lambda_{B}(a\ b)\right]$$

λ $\lambda_{B}(a\ b)$ a b λ λ

X X X_{n} RP a λ a λ $\Gamma(\beta\ \gamma)$ λ π λ β γ β γ X X X X_{n} x x x_{n} RP a λ λ

$$\lambda_{EB}(X) \quad \frac{}{m} \quad \frac{m \quad t}{t} \quad \left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\bar{c}} d\beta$$

t ${}_{i}^{n}$ x_{i} a $\Gamma(\beta\ \gamma)$ β γ $U(\quad)$ $U(\quad m)$ RP a λ λ

$$\lambda_{B}(X) \quad \frac{\left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\bar{c}}}{\gamma \quad t}$$

t ${}_{i}^{n}$ x_{i} a λ $\Gamma(\beta\ \gamma)$ $\beta\ \gamma$ β γ $\beta\ \gamma$ β γ $U(\quad)$ $U(\quad m)$ $f(\beta\ \gamma)$ $\frac{}{m}$ RP a λ λ

$$\lambda_{EB}(X) \quad E(\theta|X) \quad {}^{m} \quad \frac{\left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\bar{c}}}{\gamma \quad t} f\ \beta\ \gamma\ d\beta d\gamma$$

$$= {}^{m} \quad \frac{\left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\bar{c}}}{\gamma \quad t} \frac{}{m} d\beta d\gamma$$

$$= \frac{}{m} \quad \left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\bar{c}} d\beta \quad {}^{m} \frac{}{\gamma \quad t} d\gamma$$

$$= \frac{}{m} \quad \frac{m \quad t}{t} \quad \left(\frac{\Gamma\ n \quad \beta}{\Gamma\ n \quad \beta \quad c}\right)^{\bar{c}} d\beta$$

λ $\Gamma(\beta\ \gamma)$ $\pi(\lambda) \quad \frac{\gamma^{\beta}}{\Gamma(\beta)}\lambda^{\beta} \quad e^{\ \gamma\lambda}$ $\beta\ \alpha$

$$\pi(\lambda) \quad {}^{m} \quad \pi(\lambda) f \ \beta\gamma \ d\beta d\gamma \quad {}^{m} \quad \frac{\gamma^{\beta}}{\Gamma(\beta)} \lambda^{\beta} \quad e^{\gamma\lambda} \frac{}{m} d\beta d\gamma \ \lambda$$

a λ $\pi(\lambda)$

$$\lambda_{HB} \quad \frac{{}^{m} \ \frac{\gamma^{\beta}\Gamma \ n \quad \beta}{\Gamma(\beta) \ \gamma \quad t^{\,n \ \beta}} d\beta d\gamma}{{}^{m} \ \frac{\gamma^{\beta}\Gamma \ n \quad \beta}{\Gamma(\beta) \ \gamma \quad t^{\,n \ \beta}} d\beta d\gamma}$$

$t \quad {}^{n}_{i} \quad x_i \quad a \quad \Gamma(\beta\gamma) \quad \beta \quad \gamma \quad U(\quad) \quad U(\quad m)$

$X \ X \quad X_n \quad RP \ a\lambda \quad a$

$$L \ X|\lambda \quad {}^{n}_{i} \quad \lambda a^{\lambda} x^{\lambda} \quad \lambda^{n} a^{\ n\lambda}$$

n ω λ $\Gamma(\quad)$

c λ

λ

n

ω	n	c	λ	$\Gamma(\quad)$
n				
c				

c RP $a\,\lambda$ λ

c

ω c

λ

λ

m λ

X X X X $E\ X$

$Var\ X$

$$E\ X \quad \frac{\lambda a}{\lambda}$$

$$Var\ X \quad \frac{\lambda a}{\lambda \quad \lambda}$$

a λ x a

a

a

a λ

a a

a

	Mlinex		Bayes	
	a	***λ***	***y***	
a				

Bayes Estimates of Shape Parameters of Reverse Pareto Distribution under Mlinex Loss Function

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Abstract