Package 'snem'

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Type Package

Title EM Algorithm for Multivariate Skew-Normal Distribution with Overparametrization

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Imports mvtnorm

Description Efficient estimation of multivariate skew-normal distribution in closed form.

License GPL (>= 2)

Encoding UTF-8

LazyData true

Suggests sn

RoxygenNote 7.0.2

NeedsCompilation no

Repository CRAN

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Contents

snem *EM algorithm for multivariate skew normal distribution.*

Description

EM algorithm in closed form.

Usage

```
snem(
  x,
  eps = 0.9,
  iter.eps = 10^-6,
  stop.rule = c("parameter", "log-likelihood")
)
```

Arguments

x	A data matrix. Each row is an observation vector.
eps	Weight parameter with $0 \leq eps < 1$. Default is 0.9.
iter.eps	Convergence threshold. Default is 10^-6.
stop.rule	"parameter": The difference of the parameter is used as a stopping rule. "log-likelihood" The difference of the log-likelihood is used as a stopping rule.

Details

The parameter eps is a tuning parameter which ensures that an initial covariance matrix is positive semi-definite.

Value

Location parameter (mu), covariance matrix (omega), skewness parameter (delta), and another expression of skewness parameter (lambda).

References

Abe, T., Fujisawa, H., and Kawashima, T. (2019) *EM algorithm using overparametrization for multivariate skew-normal distribution, in preparation.*

Examples

```
library(sn)
data(ais, package="sn")
x <- ais[c("BMI")]
snem(x, stop.rule ="log-likelihood")
```

Index