Abstract

In this paper, we present a new class of distributions called Kumaraswamy Generalized Exponentiated Exponential Distribution, that is based upon the cumulative distribution function of Kumaraswamy (1980) distribution, which is more flexible and is a natural generalization of the exponential, Exponentiated Exponential and Kumaraswamy Generalized exponential distributions as special cases found in literature. Also, the analytical shapes of the corresponding probability density function and hazard rate function are derived with graphical illustrations. Expressions for the r\textsuperscript{th} moments are calculated and the variation of the skewness and kurtosis measures is investigated. Likelihood estimators of the parameters are derived. Moreover, analysis of real data set, representing the breaking stress of carbon fibers, is conducted to demonstrate the usefulness of the proposed distribution.

References

- Bozdogan, H. 1987 Model selection and Akaike's information criterion (AIC):


Index Terms

Computer Science
Keywords
Kumaraswamy Distribution  Maximum likelihood estimation  Akaike information
consistent criterion  Bayesian information criterion

Consistent Akaike Information Criteria

Kaplan-Meier estimator

likelihood ratio test

p-p plot.