

## عنوان مقاله:

On some properties of transmuted Weibull distribution

## محل انتشار:

دوفصلنامه مدل سازی آماری: نظری و کاربردها، دوره 1، شماره 2 (سال: 1399)

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## خلاصه مقاله:

A new generalized version of the Weibull distribution, which is called the perturbed Weibull distribution, is introduced in this paper. The present distribution provide enough flexibility for analyzing different types of data with increasing, decreasing, constant, bathtub shaped, unimodal, increasing-decreasing-increasing and decreasing-increasing-decreasing hazard functions in comparing with former extensions of the Weibull distribution. We study its properties including survival and hazard functions, moments, moment generating and characteristic functions, quantiles and Renyi entropy. Estimation of parameters using the methods of moment and maximum likelihood is obtained. We show the consistency of the moments and maximum likelihood estimators using some simulation study. Finally, the flexibility of the new distribution is illustrated in an application to two real data sets.

## کلمات کلیدی:

Hazard rate function, Moment generating function, Weibull distribution, Likelihood function

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