

# **Applications of Conformable Fractional Weibull Probability Distribution**

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## **Abstract**

This thesis aims to generate probability density functions of random variables of the Weibull distribution using fractional differential equations (FDE). And the second aims to find some basic concepts such as cumulative distribution, survival, and hazard functions. Expected values, moments, mean, variance, skewness, and kurtosis are all introduced as conformable fractional analogs. It also presents conformable fractional analogs of various entropy measures, such as Shannon, Renyi, and Tsallis entropy measures. And the distributions have many applications in probability and other applied sciences.

**Keywords:** conformable fractional derivative, conformable fractional integral, entropy, probability distribution.