

DISCRETE ALPHA POWER INVERSE LOMAX DISTRIBUTION WITH APPLICATION OF COVID-19 DATA

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ABSTRACT

This research aims to manage the risks of spreading Corona-Virus over the world, by specifying the optimal statistical modeling to analyze the daily count of new cases of the COVID-19, therefore discrete distributions were needed. A new three-parameter discrete distribution has been improved named as a Discrete Marshall–Olkin Lomax (DAPIL) distribution. Probability mass function and hazard rate are discussed. Point estimation and confidence interval by using maximum likelihood estimation (MLE) for the DAPIL distribution parameters are discussed. A numerical study is done using the daily count of new cases in Australia. Monte Carlo Simulation has been performed to evaluate the restricted sample properties of the proposed distribution.

KEYWORDS: *COVID-19; Hazard Rate; Discrete Distributions; Survival Discretization; Maximum Likelihood Estimation; Confidence Interval*

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