

BEBERAPA SIFAT-SIFAT

MODEL DISTRIBUSI POISSON TERGENERALISASI TAK TERBATAS

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Intisari

Model distribusi Poisson tergeneralisasi(GPD) tak terbatas $P_n(\theta, \lambda) = \frac{\theta(\theta + n\lambda)^{n-1} e^{-(\theta+n\lambda)}}{n!}$

merupakan fungsi probabilitas, dibuktikan menggunakan formula Lagrange dan formula beda Euler. Model GPD ini memiliki beberapa sifat-sifat penting, antara lain : rataan, variansi dan fungsi pembangkit momen naik jika λ naik, jumlahan N_1+N_2 dari dua variabel GP N_1 dan N_2 yang independen dengan parameter masing-masing (θ_1, λ) dan (θ_2, λ) adalah variabel GP dengan parameter $(\theta_1+\theta_2, \lambda)$, model GPD adalah unimodal untuk semua θ dan λ kecuali pada $\theta = e, \lambda = 1$, menaiknnya nilai λ akan menurunkan nilai probabilitas ekor kiri dan nilai probabilitas ekor kanan.

Kata kunci : Fungsi Probabilitas, Sifat-sifat GPD.

SOME PROPERTIES OF THE UNRESTRICTED GENERALIZED POISSON DISTRIBUTION MODEL

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Abstract

The unrestricted Generalized Poisson Distribution (GPD) model

$P_n(\theta, \lambda) = \frac{\theta(\theta + n\lambda)^{n-1} e^{-(\theta+n\lambda)}}{n!}$ is a probability function, it is proved by using Lagrange

formula and Euler's formula for nth differences of powers. This Generalized Poisson Distribution (GPD) model has some properties, among other things : mean, variance, and probability generating function increase by the increase in the value of λ , the sum N_1+N_2 of two independent GP variates N_1 and N_2 with parameters (θ_1, λ) and (θ_2, λ) respectively, is itself a GP variate with parameter $(\theta_1+\theta_2, \lambda)$, this GPD is unimodal for all θ and λ , excepted at $\theta = e$, $\lambda = 1$, the increase in the value of λ will decrease the value of the left side tail probability and the value of the right side tail probability.

Key words : probability function, properties of GPD.