Distribusi Weibull-Poisson = Weibull-Poisson Distribution

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Abstrak

Distribusi Weibull-Poisson merupakan distribusi kontinu yang dapat memodelkan beberapa macam bentuk hazard yaitu monoton naik, monoton turun dan increasing upside-down bathtub shape yang mempunyai bentuk bathtub shape terbalik dan monoton naik. Distribusi ini merupakan suatu distribusi lifetime yang dapat memodelkan kegagalan dalam suatu sistem seri dan merupakan pengembangan dari distribusi Eksponensial Poisson. Distribusi ini diperoleh dengan melakukan metode compounding terhadap distribusi Weibull dan distribusi ZT-Poisson. Untuk mendapatkan bentuk akhir dari distribusi tersebut digunakan beberapa sifat matematis seperti order statistik dan ekspansi deret taylor. Selain pembentukan distribusi Weibull-Poisson, skripsi ini menjelaskan fungsi kepadatan peluang, fungsi distribusi, momen ke-r, momen sentral ke-r, mean, dan variansi. Sebagai ilustrasi, dibahas pula aplikasi distribusi Weibull-Poisson pada data survival marmut setelah terinfeksi virus Turblece Bacilli.

.....The Weibull-Poisson distribution is a continuous distribution that can be modeled various forms of hazard namely monotone up, monotone down and upside-down down bathtub shape which is shaped up. This distribution is a lifetime-distribution that can model failures in a series system and is development of the Exponential-Poisson distribution. This distribution is obtained by perform the compounding method on the Weibull distribution and the ZT-Poisson distribution. To obtain the final form of the distribution, several mathematical properties are used such as statistical order and Taylor's number expansion. In addition to the formation of Weibull-Poisson distribution, this thesis includes the probability density function, distribution function, moment rth, rth central moment, mean, and variance. As an illustration, Weibull-Poisson distribution is applied on guinea pig survival data after being infected with Turblece virus Bacilli.