

1067-62-595

Sougata Dhar (sougata_dhar@ymail.com), Department of Mathematics, University of Texas - Pan American, 1201 West University Drive, Edinburg, TX 78539, and **Santanu Chakraborty*** (schakraborty@utpa.edu), Department of Mathematics, University of Texas - Pan American, 1201 West University Drive, Edinburg, TX 78539. *Zero Inflated Exponential Distribution*.

There have been a lot of studies on the Zero Inflated versions of these discrete distributions, like Zero Inflated Poisson and Zero Inflated Negative Binomial distributions. They arise naturally in the literature when one aims to model count data sets with more than usual number of zeros. But so far there had been no relevant study regarding Zero Inflated versions of the well known continuous probability distributions, say, Exponential or Gamma or Normal distributions. However, there could be real life situations where one can come across Zero Inflated version of an Exponential or a Normal distribution. For example, the life span of an electric bulb is generally assumed to be Exponential. But if a cheap brand of bulb exists in the market, it may have a shorter life span as compared to an electric bulb of a standard brand. In that case, the probability at zero or on an interval around zero may be more than that that for a usual Exponential distribution. In fact, Zero Inflated version of the Exponential distribution is obtained by inflating the usual exponential probability around zero and deflating it away from zero. In this talk, we will be studying the Parametric and Bayesian statistical issues for the Zero Inflated version of the Exponential distribution and its variants. (Received September 10, 2010)