

Zero-Inflated Poisson Regression Mixture Model

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Excess zeros and overdispersion are commonly encountered phenomena that limit the use of traditional Poisson regression models for modeling count data. The focus of this paper is on modeling count data in the case that a population has excess zero counts and also consists of several sub-populations in the non-zero counts. The proposed zero-inflated Poisson regression mixture model accounts for both excess zeros and heterogeneity. The performance of parameter estimation for the proposed model is evaluated through simulation studies.

Key Words: Zero-Inflation, Heterogeneity, Finite Mixture Models, Poisson