

Low default credit scoring using two-class non-parametric kernel density estimation

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ABSTRACT:

This paper investigates the performance of two-class classification credit scoring data sets with low default ratios. The standard two-class parametric Gaussian and non-parametric Parzen classifiers are extended, using Bayes' rule, to include either a class imbalance or a Bernoulli prior. This is done with the aim of addressing the low default probability problem. Furthermore, the performance of Parzen classification with Silverman and Minimum Leave-one-out Entropy (MLE) Gaussian kernel bandwidth estimation is also investigated.