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New Segmentation of Piecewise Linear Regression Models Using Reversible Jump MCMC Algorithm

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Abstract : Piecewise linear regression models are very flexible models for modeling the data. If the piecewise linear regression models are matched against the data, then the parameters are generally not known. This paper studies the problem of parameter estimation of piecewise linear regression models. The method used to estimate the parameters of picewise linear regression models is Bayesian method. But the Bayes estimator can not be found analytically. To overcome these problems, the reversible jump MCMC algorithm is proposed. Reversible jump MCMC algorithm generates the Markov chain converges to the limit distribution of the posterior distribution of the parameters of picewise linear regression models. The resulting Markov chain is used to calculate the Bayes estimator for the parameters of picewise linear regression models.

Keywords : regression, piecewise, Bayesian, reversible Jump MCMC
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