

Solution of stochastic dynamic difference equation based on machine learning method

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Abstract

The stochastic dynamic analysis and filed of artificial intelligence are all aimed at the complex system, and they are all facing the same question and challenge: The theory and application of the dimension reduction and sampling on the high-dimensional data set. According to the concept of big data, the information contained in the data could help us to eliminate uncertainty; the correlation between data could take over the original causal relationship to some extent. Therefore, combining the merits of big data, this paper attempts to solve the stochastic dynamic difference equation by means of the techniques in machine learning filed. And the efficiency and accuracy are verified by the Monte Carlo stochastic simulation.

Keywords: Big data, Stochastic difference equation, Machine learning