

عنوان مقاله:

Modelling covid-19 data using double geometric stochastic process

محل انتشار:

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خلاصه مقاله:

Some properties of the geometric stochastic process (GSP) are studied along with those of a related process which we propose to call the Double geometric stochastic process (DGSP), under certain conditions. This process also has the same advantages of tractability as the geometric stochastic process; it exhibits some properties which may make it a useful complement to the multiple Trends geometric stochastic process. Also, it may be fit to observed data as easily as the geometric stochastic process. As a first attempt, the proposed model was applied to model the data and the Coronavirus epidemic in Iraq to reach the best model that represents the data under study. A chicken swarm optimization algorithm is proposed to choose the best model representing the data, in addition to estimating the parameters a , b , μ , and σ^2 of the double geometric stochastic process, where μ and σ^2 are the mean and variance of X_1 , respectively.

کلمات کلیدی:

double geometric stochastic process, geometric stochastic process, Parameter estimation, chicken swarm optimization algorithm, multiple monotone trends, root mean square criteria

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