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The Recursive Equation Connecting Future And Past. ISSN 1751-3030

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Abstract

In this research investigation, the author has presented a Recursive Past Equation.

Article body

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The Recursive Equation Connecting Future And Past

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Abstract

In this research investigation, the author has presented a Recursive Past Equation.

Theory

From [1], given a Time Series $Y=\{y_1,y_2,y_3,.......,y_{n-1},y_n\}$

we can find y_0 using the following Recursive Past Equation

$$y_n=\left\{\sum_{k=0}^{n-1}\left\{\frac{Smaller\ of\ (y_n,y_k)}{Larger\ of\ (y_n,y_k)}\right\}\left\{\sum_{k=0}^{n-1}y_k\right\}\right\} \tag{1}$$

Also, from [2], given a Time Series $Y=\{y_1,y_2,y_3,.......,y_{n-1},y_n\}$

we can find y_{n+1} using the following Recursive Past Equation

$$y_{n+1}=\left\{\sum_{k=0}^{n}\left\{\frac{Smaller\ of\ (y_{n+1},y_k)}{Larger\ of\ (y_{n+1},y_k)}\right\}\left\{\sum_{k=0}^{n}y_k\right\}\right\} \tag{2}$$

We can now connect the equations (1) and (2) by using the value of y_n, i.e., the R.H. S of equation (1), namely

$y_n=\left\{\sum_{k=0}^{n-1}\left\{\frac{Smaller\ of\ (y_n,y_k)}{Larger\ of\ (y_n,y_k)}\right\}\left\{\sum_{k=0}^{n-1}y_k\right\}\right\}$ in equation (2) wherever it occurs.

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1 Author comment added 1st May, 2017 at 11:41:24
Addendum 1:

Author: Ramesh Chandra Bagadi

From author's [5] listed below, we can note that the One Step Future Element for a given Time Series can be gotten by just taking the Total sum of the Ananda-Damayanthi Normalized Similarity Co-efficients between each element of the given Time Series and each of the other element of the Time Series inclusive of itself, and adding up such each elements of the given time series similarity contribution.

Additional References

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