

## Trapezoidal Approximation Of Fuzzy Numbers

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### **trapezoidalApproximation function | R Documentation**

Fuzzy number approximation by trapezoidal fuzzy numbers which preserves the expected interval is discussed. New operators that fulfill additional requirements for the core and support of the fuzzy...

### **Note on "Trapezoidal approximation of fuzzy numbers"**

2 How to Create Instances of Fuzzy Numbers 2.1 Arbitrary Fuzzy Numbers A fuzzy number A may be defined by specifying its core, support, and either its left/right side functions or lower/upper  $\alpha$ -cut bounds. Please note that many algorithms that deal with FNs

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be a fuzzy number then the trapezoidal approximation which preserves the expected interval and the support is:  $T(B) = 5; 13 \ 2 ;13;14$  : The main properties of the trapezoidal approximation operator which pre- serves the expected interval and the support are introduced in the following theorem.

### **Natural trapezoidal approximations of fuzzy numbers ...**

The problem to find the nearest trapezoidal approximation of a fuzzy number with respect to a well-known metric, which preserves the expected interval of the fuzzy number, is completely solved. The...

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Approximation of fuzzy numbers by symmetric trapezoidal fuzzy numbers preserving the ambiguity and value Example 10. If is the fuzzy number in Example 6 then (58) and Because is decreasing on ,... Theorem 11. Let, and let be the nearest symmetric trapezoidal fuzzy number to which preserves... ..

### **Note on "Trapezoidal approximation of fuzzy numbers ...**

Existence of interval, triangular, and trapezoidal approximations of fuzzy numbers under a general condition 1. Introduction. In practice, it is used to approximate general fuzzy numbers by specific fuzzy... 2. Linear operators on fuzzy numbers. Let denote the set of all fuzzy numbers. 3. ...

### **TRAPEZOIDAL APPROXIMATION OF FUZZY NUMBERS**

The problem of the trapezoidal approximation of fuzzy numbers is discussed. A set of criteria for approximation operators is formulated. A new nearest trapezoidal approximation operator preserving expected interval is suggested. This is a preview of subscription content, log in to check access.

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## Weighted Trapezoidal Approximations of Fuzzy Numbers

Fuzzy Set Theory Lecture 20 By Prof S Chakraverty NIT Rourkela. ... Approximation of TFN, Trapezoidal fuzzy & Bell shaped fuzzy numbers-Lec20 By Prof S Chakraverty ... Interval,fuzzy numbers, ...

## Approximations of fuzzy numbers by trapezoidal fuzzy ...

trapezoidal approximation of fuzzy numbers, but the re-sult of approximation is not always a fuzzy number, sometimes it is not a fuzzy set. For example Grzegorzewski and Mrowka proposed in [12] a method to find the nearest (with respect to a well-known metric between fuzzy numbers) trapezoidal approximation operator that

## Natural trapezoidal approximations of fuzzy numbers ...

In [2], it is stated that "if  $T(A) = T(t_1, t_2, t_3, t_4)$  is the nearest trapezoidal to fuzzy number  $A$  then  $t_1 = t_1(A) = -6 \int_0^1 A(x) dx$ ,  $t_2 = t_2(A) = 6 \int_0^1 A(x) dx$ , \* Corresponding author.

## Trapezoidal Approximation Of Fuzzy Numbers

Therefore the most often used fuzzy numbers are, so called, trapezoidal fuzzy numbers. Their both sides are linear and the membership function has a following form:  $B(x) = 0$  if  $x < t_1$ ,  $x - t_1$  if  $t_1 \leq x < t_2$ ,  $1$  if  $t_2 \leq x < t_3$ ,  $t_4 - x$  if  $t_3 \leq x < t_4$ ,  $0$  if  $x > t_4$ .

## Trapezoidal Approximation of a Fuzzy Number Preserving the ...

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Fuzzy number approximation by trapezoidal fuzzy numbers which preserves the expected interval is considered. New operators that fulfill additional requirements for the core and support of the fuzzy number are suggested. These supplementary conditions guarantee the proper interpretation of the solution even for very skew input fuzzy numbers.

### **Note on “Trapezoidal approximation of fuzzy numbers ...**

Finally, proposed trapezoidal approximation might be treated as an " approximation of the fourth kind ", because arbitrary fuzzy number is reduced to trapezoidal fuzzy number which is completely...

### **Existence of interval, triangular, and trapezoidal ...**

Fuzzy number approximation by trapezoidal fuzzy numbers which preserve expected interval is discussed. The previously proposed approximation operator is improved so as to always produce a well formed trapezoidal fuzzy number.

### **An approximation method of intuitionistic fuzzy numbers ...**

The idea of the membership functions construction form a data sample is suggested. The proposed method is based on the trapezoidal approximation of fuzzy numbers.

### **Approximation of TFN, Trapezoidal fuzzy & Bell shaped fuzzy numbers-Lec20 By Prof S Chakraverty**

Trapezoidal Approximation of a Fuzzy Number. This method finds a trapezoidal approximation  $\tilde{T}(A)$  of a given fuzzy number  $\tilde{A}$  by using the algorithm specified by the method parameter.

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Fuzzy number approximation by trapezoidal fuzzy numbers which preserves the expected interval

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### **A Guide to the FuzzyNumbers Package for R (FuzzyNumbers ...**

It is important that intuitionistic fuzzy numbers are approximated by trapezoidal intuitionistic fuzzy numbers. The results of approximations can be applied on ranking of intuitionistic fuzzy numbers and intuitionistic fuzzy decision making. Some scholars have studied the approximations of intuitionistic fuzzy numbers by fuzzy numbers.

### **Trapezoidal Approximation of Fuzzy Numbers Based on Sample ...**

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