

## عنوان مقاله:

Multiple attribute decision making with triangular intuitionistic fuzzy numbers based on zero-sum game approach

## محل انتشار:

مجله سیستم های فازی، دوره 16، شماره 3 (سال: 1398)

تعداد صفحات اصل مقاله: 16

## نویسندگان:

J. Xu - College of Modern Economics & Management, Jiangxi University of Finance and Economics, Nanchang ۳۳۰۰۱۳, China

J. Y. Dong - School of Statistics, Jiangxi University of Finance and Economics, Nanchang ۳۳۰۰۱۳, China

S. P. Wan - College of Information Technology, Jiangxi University of Finance and Economics, Nanchang ۳۳۰۰۱۳, China

J. Gao - College of Modern Economics & Management, Jiangxi University of Finance and Economics, Nanchang ۳۳۰۰۱۳, China

## خلاصه مقاله:

For many decision problems with uncertainty, triangular intuitionistic fuzzy number is a useful tool in expressing ill-known quantities. This paper develops a novel decision method based on zero-sum game for multiple attribute decision making problems where the attribute values take the form of triangular intuitionistic fuzzy numbers and the attribute weights are unknown. First, a new value index is defined for triangular intuitionistic fuzzy numbers on the basis of the centroid. Thereby, a new ranking approach is presented for comparing triangular intuitionistic fuzzy numbers. We formulate a multiple attribute decision making problem as a two-person zero-sum game with payoffs of triangular intuitionistic fuzzy numbers. Then, following the new ranking approach, the fuzzy matrix game is converted as a pair of crisp linear programming models, and the optimal strategies are objectively derived by solving such models. Therefore, the ranking order of alternatives is determined by the expected scores of alternatives. An example of video monitoring system selection is demonstrated to illustrate the effectiveness of the proposed methodology.

## کلمات کلیدی:

Multiple attribute decision making, Triangular intuitionistic fuzzy numbers, Two-person zero-sum game, Linear programming model, Video monitoring system selection

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1307602>

