

## Single Valued Neutrosophic Hesitant Fuzzy Rough Set and Its Application

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**Abstract :** In this paper, we proposed the notion of single valued neutrosophic hesitant fuzzy rough set, by combining single valued neutrosophic hesitant fuzzy set and rough set. The combination of single valued neutrosophic hesitant fuzzy set and rough set is a powerful tool for dealing with uncertainty, granularity and incompleteness of knowledge in information systems. We presented both definition and some basic properties of the proposed model. Finally, we gave a general approach which is applied to a decision making problem in disease diagnoses, and demonstrated the effectiveness of the approach by a numerical example.

**Keywords :** single valued neutrosophic fuzzy set, single valued neutrosophic fuzzy hesitant set, rough set, single valued neutrosophic hesitant fuzzy rough set

**Conference Title :** ICFLA 2019 : International Conference on Fuzzy Logic and Applications

**Conference Location :** Dublin, Ireland

**Conference Dates :** January 30-31, 2019