

# An Exhaustive Assessment on Fuzzy Set Theory with Its Properties and Various Applications

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## ABSTRACT

In this paper, we look at fuzzy sets and how they may be used to represent systems that are difficult to define precisely. In the model formulation and solution process, fuzzy set theory (FST) integrates imprecision and individuality. This paper gives a thorough examination of fuzzy sets. Objects having un-sharp borders are classified as FST. It can include things with varying degrees of set membership since it enables partial membership. Fuzzy sets may be used for a variety of activities, and they have well-defined characteristics. These characteristics and processes lay the groundwork for applying fuzzy sets to deal with uncertainty and represent knowledge on one side, and to represent knowledge on the other. In this paper, we will cover fuzzy set techniques in real life and a variety of applications that may be evaluated using a fuzzy set algorithm.

**Keywords:** Fuzzy Set, Membership function, Cardinality, Normal fuzzy set.

