

## ON INTUITIONISTIC FUZZY DATABASES

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Relational database systems have been rigorously studied by several authors, since Codd [17] introduced the relational data model in 1970. Database users have found it to be a very useful model and several database languages based on this model and one version after another, are being developed. This model has been followed in industries/business and in automation processes in many offices around the world. Implementation of this model is in terms of very precise data only. Having no vagueness, but in real life situations, data available are not always crisp and precise. Rather Intuitionistic Fuzzy is nature. Dr. Biswas and Roy [22] introduce the concept of Intuitionistic Fuzzy Databases (IFDB). There is not much work reported on Intuitionistic Fuzzy Databases. In this thesis we study the notion of Intuitionistic Fuzzy Databases and make further characterizations. We define two sophisticated operations 'Case-Projection and Case Selection' as a generalization of the existing operations projection and selection.

In this thesis we also discussed Normalization of Intuitionistic Fuzzy Databases and of Fuzzy Databases; we have presented a method how to put an Intuitionistic Fuzzy Database relation into first normal form. A special case of this could be treated as a method of putting a Fuzzy Database in 1NF and also implemented in Object Oriented Programming Language.

We feel that a good scope of further work exists specially on Normalizing Intuitionistic Fuzzy Databases into 2NF, 3NF, 4NF and 5NF etc. and to define the same for Fuzzy Databases.