

# **The pliant concept and its application in decision making and optimization**

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**In spite in their efficiency in practice, Fuzzy theory suffers from the variety of their operators. The meaning of the membership function is also differs in the articles. In this lecture we define a subclass of the fuzzy concept called Pliant (i.e. flexible) which gives a consistent system. For the consistency we make issue on the DeMorgan identity. Because the limitation of the continuous valued logic we introduce the aggregation operator. We show that with this particular system**

- a. we can handle optimization procedure if logical expression is used over non-linear inequality system.**
- b. it correspondent the neural networks i.e. with the pliant concept we can explain the result of the network.**
- c. it is possible to generalize the decision tree concept, and a more effective learning procedure can be.**

**This late one will be discussed in detail.**