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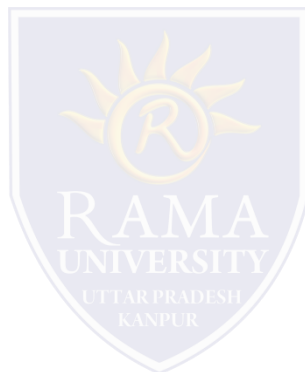
FACULTY OF ENGINEERING AND TECHNOLOGY

Soft Computing LECTURE -17

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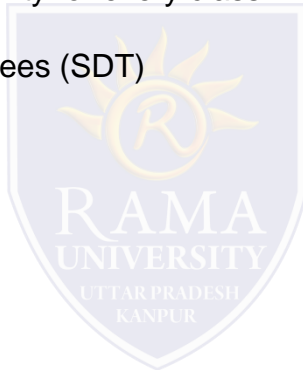
OUTLINE

- **Neuro-Fuzzy Classification**
- **Structure identification in fuzzy modeling**
- **Tree-partioning in fuzzy modeling**
- **References**
- **MCQ**



Neuro-Fuzzy Classification

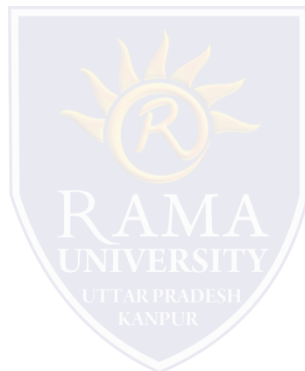
- ❑ Fuzzy classification trees is a new model that integrates the fuzzy classifiers with decision trees, that can work well in classifying the data with noise. Instead of determining a single class for any given instance, fuzzy classification predicts the degree of possibility for every class.
- ❑ Fuzzy decision trees called soft decision trees (SDT)



Structure identification in fuzzy modeling

Structure identification in fuzzy modeling includes the following basic items

- Select the relevant input variables
- Select initial structure for ANFIS: -
 - Input partition –
 - Number of membership functions for each input
 - Number of IF-THEN rules
 - Prerequisite part for fuzzy rules
 - Consequent part for fuzzy rules
- Initialization of parameters for membership functions



Tree-partitioning in fuzzy modeling

- ❑ The CART (Classification and Regression Tree) algorithm
- ❑ CART offers a fast method for structure identification
- ❑ CART does not have problems with the curse of dimensionality
- ❑ ANFIS based on CART is powerful in training and application because weight normalization is included in the procedure



MULTIPLE CHOICE QUESTION

6. What kind of perception is used in printing?

- a) Optical character recognition
- b) Speech recognition
- c) Perception
- d) None of the mentioned

7. Why the parsing is used?

- a) Interpretation
- b) Building a parse tree
- c) Recognition
- d) All of the mentioned

8. How many objects are available in closed classes?

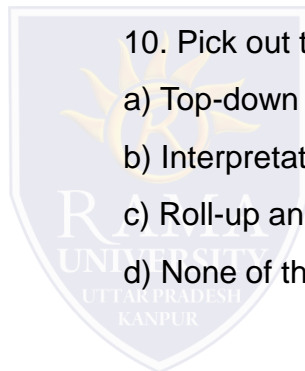
- a) 1
- b) 2
- c) 3
- d) 4

9. How many states are present in parsing?

- a) 1
- b) 2
- c) 3
- d) 4

10. Pick out the correct option about the types of parsing.

- a) Top-down and bottom-up parsing
- b) Interpretation and communication
- c) Roll-up and roll-down
- d) None of the mentioned



REFERENCES

❑ https://notendur.hi.is/benedikt/Courses/ch14_2005.pdf

