

The coevolutionary algorithm for fuzzy-neural systems modeling, with the special interest to areas of medicine and bioinformatics

> This research was focused on the application of the coevolutionary algorithm for fuzzy-neural systems

Block scheme of the proposed hybridization	

## FUZZY-NEURO-COEVOLUTIONARY SYSTEM The specific coevolution of The coevolution of two groups of (OR) multiple species of related nodes of the neural net. similar species. the new struct struct. of the of the fuzzy-

Architecture of the proposed hybridization of fuzzy logic, neural network and coevolution algorithm



agent systems (MAS) as integrate method for complex software systems development.



system is modeled using several classes namely FuzzyValue, FuzzyVariable, FazzySet, FazzyRule and FuzzyRuleBase supporting fuzzification, inference and defuzzification.



integration of OO and RT methods. OO methods identify objects in the real-world domain and use them as fundamental building blocks for the software system. The experience based on the strongly defined semantics of the object model is discussed and related problems are analyzed.

Hybrid algorithm for protein structure preprocessing based on clustering method and fuzzy logic

## **Motivation**

Multiple pairing of protein structure - a genetic mapping based on data mining methods the formation of protein cluster groups without overlapping mapping of protein chains in the fuzzy set - the formation of virtual cluster structures with overlapping.

- <u>Goals</u> • Finding similarities between the structures (selection)
- Finding natural groupings between proteins (immunemodeling)
- Prediction of the regular connection between transfromed sets (prediction of protein secondary structure)



**Schematic representation of pre-processing** protein structures at the level of clusters



**Overlapping protein cluster data structure** using the fuzzy logic and fuzzy sets



