



RESEARCH ARTICLE

Protein Structure Prediction using Genetic Algorithm

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Abstract— Protein Structure Prediction is the process of prediction of the three dimensional structure of a protein from its amino acid sequence. Proteins are large biological molecules which contain large amount of amino acid sequence. The Bioinformatics industry is in the fledgling condition and gaining more attention of researchers. For the development of a new drug there need a high level of research with large amount of data from different cluster and locations. In the field of biology protein structure prediction plays a vital role for the development a new drug. In recent years many techniques are being used for the protein structure prediction. There are many Soft Computing methods like Fuzzy Logic, Artificial neural network, Genetic algorithms, Swarm optimization, etc are used for this purpose to distinguish, compare or process the various structure of protein. It is always a big task for researchers to develop new tools and methods for the purpose of processing of data as well as development of drugs. Protein Structure Prediction is the process of prediction of the secondary, territory & quaternary structure of the protein from its amino acid sequence. Genetic Algorithm is a computational technique which creates the mimic of the process. In this paper we have proposed a technique, which based on Genetic Algorithm technique for the prediction of protein structure. This technique will be helpful to work with huge amount of data and for the prediction of protein structure in a large scale. This technique can be adopted by the medicine researchers to develop various drugs after study and analyzing the changes of protein structure.

Key Terms: - Protein Structure; Bioinformatics; Soft computing; Artificial neural network; Fuzzy logic; Genetic Algorithm; Swarm Optimization

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