Proteins play a vital role in every organism. The role played by a protein is mostly due to its structure and hence predicting the structure of a protein is important. There are vast numbers of experimental techniques that can be used to predict the structure of a protein but these are very time consuming, expensive and tedious. As such, research is going on to develop approaches using soft-computing techniques that can be used to predict the structure of a protein in lesser time compared to traditional methods. The approach reported in this paper is to predict the structure of a protein using an image of a protein collected from Protein Data Bank (PDB). Certain image processing and dimension reduction techniques are applied together to a soft-computational framework to achieve the intended objective. The paper also shows how combination of dimension reduction techniques like Principal Component Analysis (PCA) and Self Organizing Map (SOM) along with some soft computational tools helps to predict the structure of a protein. The proposed approach is very much dissimilar to the approaches reported earlier based on estimation of an amino acid sequence. Here, we have used Artificial Neural Network (ANN) as a soft computational tool to predict the structure of a protein.

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