Title

DEVELOPMENT OF ALGORITHMIC FRAMEWORK BASED ON MAPPINGS IN THE HYBRIDS OF HYPERSOFT STRUCTURES WITH APPLICATIONS IN MEDICAL DIAGNOSIS

Abstract

In the history of mankind, pandemics have shaken the entire world economy and exterminated millions of people. Several mathematical models have been presented for their diagnosis and treatment. The aim of this study is to put forward an innovative mathematical model for the diagnosis and appropriate treatment of certain pandemics based on hybrids of Hypersoft set (soft set's extension) structures and their mappings. It's challenging to differentiate the particular type of sickness after considering the severity of the illness's adverse effects. Since, in terms of practical evaluation, the indeterminacy, falsity parts, amplitude term (A-term) and phase term (P-term) at the same time are frequently dismissed, it is difficult to keep track of accuracy in a patient's improvement record and anticipate the length of medication. To fulfill this gap the fuzzy-like hybrids theory of hypersoft will be taken under consideration. This theory will be more flexible in three ways; firstly, it has indeterminacy and falsity components, which use parametric values to assess data in all three conceivable dimensions of positive, indeterminant, and negative aspects of the patient's sickness. Secondly, it further categorizes the distinct attribute into corresponding sets with disjoint attribute values for improved comprehension. Thirdly, it allows vast range of possible values for the membership function by expanding them to the unit circle in an Argand plane and incorporating an additional term known as the P-term to account for the periodic nature of the data. These structures and mappings, together with their inverse mappings, will be created to address this problem since they can take into account sub-parametric values, as well as their order and arrangements, while dealing with the parametric values of such an illness. This investigation will establish a link between symptoms and medications, lowering the narrative's complexity. These computations are based on mappings in order to correctly diagnose the problem and choose the best treatment for each patient's ailment. Furthermore, these mappings will be generalised to allow an expert to extract the history of the patient's progress and predict the time it will take to treat the illness.