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Use of Fuzzy set theory and its modifications in understanding problems of Bio-informatics

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Abstract

Comparison of whole genomes and protein sequences is still a challenging problem, for they may be too large and at the same time of unequal lengths too. It is the application of Fuzzy set theory, which can bring the sequences to elements of finite dimensional spaces. Thus comparison of sequences reduces to a manageable form. Sometimes even this fuzzy representation becomes inadequate for giving uniform results. These difficulties may be removed by considering modification of Fuzzy set theory as an intutionistic Fuzzy set theory.

Biography

Dilip Kumar Bhattacharya, the UGC Emeritus professor of Rabindra Bharati Univerity, Kolkata retired from Calcutta University as Professor and Head from the department of Pure Mathematics in 2008. Then he served as an AICTE Emeritus Professor in the School of Bio-science and Engineering, Jadavpur University from 2008-10. He has good academic career throughout. He got his undergraduate and post-graduate degree from Presidency College and Department of Pure Mathematics, Calcutta University. He also obtained his Ph.D degree from Calcutta University, India He is a renowned teacher in mathematics having 47 years of teaching experience. He is a good researcher having nearly ninety publications in peer-reviewed National and International Journals of repute. He is a competent research supervisor, producing eleven M.Phil students, Twelve Ph.D students and still supervising four more Ph.D students in Electronic science and Bioinformatics from .Calcutta and Jadavpur University, India. He has a varied interest in his field of research. He originally worked on basics of pure mathematics including modern algebra, functional analysis and manifold theory. Then he switched on to mathematical modeling and control in Biology and medicine. After words he was interested in nonlinear dynamical system and chaos theory and studied the effect of music and meditation on mind. Presently he is applying nonlinear time series analysis and fuzzy set theory and its modification in the field of DNA and Protein sequencing in Bioinformatics. He is an international reviewer of many well known journals of Pure and applied mathematics. He is a fellow of the International Academy of Physical Sciences.