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3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings year 2019-20

S. No	Name of the teacher	Title of the paper	Year of publication	ISBN number of the proceeding	Name of the publisher
Session 2019-2020 (1 Jan 2019- 31 Dec 2019)					
1	Dr. A.K.Tiwari	New Data mining Method based on Probabilistic-Possibilistic-Mean	2019	978-1-7281-4826-7	IEEE
2	Dr. A K. Tiwari	Neural Network and Genetic Algorithm based Hybrid Data Mining Algorithm	2019	978-1-7281-4826-7	IEEE
3	Dr. Prafulla Kumar Vyas	Chapter 7 Social Impact of Biometric Technology: Myth and Implications of Biometrics: Issues and Challenges	2019	978-3-030-30436-2 (eBook)	Springer Nature

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New Data Mining Method based on Probabilistic-Possibilistic-Mean

(Discrete Data Mining Algorithm)

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Abstract—The possibilistic mean is reviewed in this paper for prediction of academic data. The mean values of the probabilistic study of the possibilistic mean is classified by fuzzy numbers is the main result of this paper. This result is applied on the prediction of the academic performance over the academic data. Basically, this paper presents an analysis of academic data by fuzzy numbers. The variance of fuzzy numbers classes the big data into dynamic and compact data. This system performs efficiently over the various characteristic of fuzzy numbers. The illustration is also presented in this paper.

Keywords—Probabilistic Mean; Possibilistic Mean; Fuzzy; Data Mining.

I. INTRODUCTION

Dubois et. al. [3, 4] proposed the fuzzy numbers and its computational aspects in the year 1980. In 1987, they presented the mean value of the fuzzy number. In this result, they computed the mean value as a closed interval over the functions of upper and lower distributions. This is calculation technique for the expectations. Hence the fuzzy number's mean value formulation is found under the upper the lower possibilistic mean values. Basically this work is the comparative analysis of possibilistic and probabilistic mean values. The result of Goetschel et.al. [6] was the key factor of this result. The concept of elementary fuzzy calculus described also by him in the year 1986. Zadeh [15] originated fuzzy sets in 1965. Since 1965, there are several generalization existed in the development of fuzzy set and its rules. Fuzzy calculus became the central among all the functional properties.

Later Fuzzy Sets became very popular by its applicability. Although, Zadeh introduced this new set only by its characteristic and membership

behavior with the linguistic decisions but the theory of relativity based modern world also interacts with this. There are numerous system has been developing since 1965. Most of the modern applications are based on this sets and logic. Student's academic performance is one of the applications among them. Sangsiry et.al. [10] delivered a theory on factors that affect the pharmacy students academic performances in the year 2006. In 2010, another application came in the existence on K-means clustering. It is applied for the prediction of student's academic performance. This work is presented by Oyelade et.al. [9]. Two years before, Zukhri et.al. [16] proposed an idea of solving the new student allocation problem by the partition based approach via genetic algorithm. In 2011, Mankad et.al. [89] defined some evolving rules by genetic- fuzzy correlation concept over the case studies of students educational performances. Sreenivas et.al. [11] demonstrated an improving academic performances of students of defense university based on data warehousing and data mining also in 2012. Afoayan et.al. [1] developed another method for designing and implementing the information systems of the tertiary institutions by the neural network techniques in the year 2010. Biswas et.al. [2] presented an application for the evaluation of students by fuzzy sets in the year 1995. In 1993, Gau et.al. [5] defined vague sets for the similar type of the predictions of performances of students. Wang et.al. [12] gave the new methods based on fuzzy numbers associated with the degree of confidence in 2006.

The classical application of fuzzy sets is influenced with the work of Hartigan et.al. [7], which was K-means clustering. It was given in the year 1979. In 1989, White et.al. [13] used artificial neural network technique for developing the rule on the perspective of statistics. As the noteworthy contribution in modern applications, a new soft computing proposed by Yadav et. al. [14] in the year

Dr. A K. Tiwari	2019 International conference on computing, communication, and intelligent system (ICCCIS)	Neural Network and Genetic Algorithm based Hybrid Data Mining Algorithm	978-1-7281-4826-7
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Neural Network and Genetic Algorithm based Hybrid Data Mining Algorithm

(Hybrid Data Mining Algorithm)

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Abstract—A hybrid data mining algorithm is presented in this paper. This hybridization is considered the neural network and genetic algorithm. Academic information contains the finite hidden information. This hidden information can be useful for the further planning in academics. There is definitely a link with the real information and predicted information. The functional dependence and independence are reviewed in this paper. Basically, this paper presents a study of student's academic performance based on Neural Network and its optimization by Genetic Algorithm. Neural network is formulated by probabilistic approach and genetic algorithm is generalised by discrete distribution of variables. Hence a system is developed to predict academic information, which can be applied in various applications of academic development.

Keywords—Hybrid Data Mining; Neural Network; Genetic Algorithm.

I. INTRODUCTION

In 1989, Goldberg [3], presented a real application of Genetic Algorithm (GA) especially for the search, optimization and machine. Again he illustrated this as the form of Bibliography in the year 1992. In 1999, a book is published on data warehousing by Alex et. al. [1]. Guofeng [4] proposed an acquirement of knowledge on data mining in the year 2003. In the same year, Zhimao [11] presented a survey on Data Cleaning and designed a system. Next year, Zezhu [9] gave a data mining algorithm. This is based on rough set theory and BP Neural Network. Heckerling et. al. [5] used the GA for Neural Networks (NN) for prediction the community Acquired Pneumonia in 2004. In the year 2005, Zhou [12] developed a new technique for the short term traffic flow forecasting. It is based on NN and GA approach. In 2005, Wang [7], established

a predictive model based on improved BP NN. Its application also given by him in various data mining analysis.

The detail survey of the applications of Artificial Neural Network (ANN) is compiled by Zhang [10] in the year 1993. He also designed some model based on ANN. The review of principles and applications of GA is presented by Li [6] in the year 2002.

In 2003, David [2] presented the principles of Data Mining. It covers almost all aspect of data mining. Xu [8] put the survey of NN control in the year 2003.

Data Mining is the study of data and its hidden information. This is the art and science of getting all possible information from the data. Basically it is an extraction of information and knowledge that are hidden partially or fully in the data. The data analysis is required for the various aspects. Correspondingly, there are various methods are exists. The association rules, classification knowledge, clustering analysis etc. By these methods, the best fit decision is formed. Again, the question remains the same, which is it's the justified decision? It means the data analysis is the continue process or probable process to reach up to the level of significance. There may be the finite characteristics in the Data but the output is equivalent, it is one of the major challenges in data mining. What should be the unique information of the data are also the main frontiers in data mining. The basic steps in data mining are the followings:

- a. Editing
- b. Modeling

Editing interacts with the filtering, synthesizing and arranging as per the defined rule and/or objective. Then defining the new rule and algorithm are concern with the Modeling. Neural Network is one of the noteworthy methods for the modeling. The higher durability is the major quality of the Neural Network than the other existed methods. The low error rate and high accuracy are other advantages of Neural Network.

Basically, NN is a function, which maps the dimension from n to 1. It is an algorithm, where the procedure

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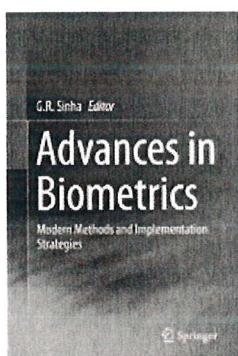


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Chapter 7

Social Impact of Biometric Technology: Myth and Implications of Biometrics: Issues and Challenges



Kavita Thakur and Prafulla Vyas

7.1 Introduction

However biometric system has versatile uses among various fields for identification and verification but it faces some challenges and issues. This chapter deals with the myth and implication of biometrics as well as various challenges and issues which hinder the implementation, usability, and adoptability of biometric system. Biometrics is the better authentication mode to identify persons. Basically, biometrics indicates what you are rather than what you have, i.e., possession, such as keys, passport, smartcard, etc., or what exactly you remember in mind such as secret codes, PIN codes, etc [3]. Every person has their own unique biometrics which can't be shared, stolen, or even forgotten. Clearly any solid individual recognizable proof ought to incorporate biometrics in light of the fact that individuals don't lose their physiological and organic attributes. The biometric system explores various physical or biological traits like finger veins, face, retina, signature, voice, etc. to identify the individuals. Identification system is widely used by most software development organization to trace out their employee time and attendance verification. Biometric system tries to avoid proxy identification which is very critical in time-bound organization. It saves a lot of remuneration paid to employees. According to the US Department of Commerce, the business of country bears the cost of \$50 billion annually because of employee time theft and insincerity. Basically, biometric system eliminates time theft and ghost employees, increases productivity, reduces administrative costs, as well as reduces payroll errors. As compared to biometric

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