Design Neural Database to identify the problem of the conditions in Dental Clinics

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ABSTRACT: There are many ways can be utilized to figure out optimal solutions the in-operation research that left off the traditional way network. The research goes over the building operation of integrated computer database for College of Dentistry students for their patients, and the database functions on a LAN connected with a server/client as the dentist clinic calculator functions as a server and the ones in the doctors' room of the three clinics are as clients, when a patient comes into the dentist clinic undergo examinations and accordingly, the doctor makes a decision to get into the clinic for treatment, or expel him/her to another clinic for treating. After that, returns to the main clinic after finishing the treatment in these clinics. Utilizing cloud computing and neural networks for flexible database.

Keywords: Neural databases, Artificial intelligence, Neural network, Dynamic database, Cloud computing.

1. INTRODUCTION

As technology has been developing, a decision was made to build a system to lead a specialized clinic in College of Dentistry by using the multivariate linear discriminant analysis programmed for building a model in the shape of a discriminant function for classifying every sample patient [1].

The research was divided into two groups, the first group was those who get into the clinic , and the other group is the transferred patients to another clinic, on a set of variables basis[2], after which patients get nominated from this clinic by utilizing SQL (Structural Query Language), so that the illness is classified into a certain kind, either (Orthodontic, Compensation, Structure, Children) by utilizing the backpropagation network, and relying on the patients' symptom set and clinical signs[3]. we utilized the back propagation and the DFD way in the program needs analysis stage, and the Visual Basic.net language has been utilized to design and program the system [4].

1.1 Neural Databases

The step that precedes setting a definition for the issue to be settled here, it is required to be familiarized with some basics on which our research was based including neural databases, considering it as a database system without a schema, as every query as well as every update was given in a natural language [5]. Another defining is to emerge all applications in which the data schema is not able to be determined previously and the data is stated in more than linguistic pattern [6].

Neuron database provides a dynamic research database, there are three types of neuronal characteristics: neurotransmitter receptors, neurotransmitter substances and voltage gated conductance [7]. It has a number of tools that provide for integrating each characteristic in a pre-defined type of compartment and neuron, and for comparing each characteristic across different types of compartments and neurons.

Each system of integrating data management could analyze and process knowledge, and the method complicates the data access to the process [8].

1.2 Neural Database Algorithm

Neural Networks cab find out every pattern in data transactional traditional data, in addition to streaming data, sound and images etc. But for certain applications [9], Neural Networks need other computing resources due to the intricacy of the hidden layers with the network, see Fig. 1, see Fig. 2.

illustrates the Neural Network with a hidden layer. In that figure, each input connects with a neuron in the hidden layer exemplified by red circles. A neuron chooses a group of numeric values as an input and does a mapping on them to a single output value. (A neuron is a plain regression function with multi-input linearity, whereas the output is passed throughout an activation function) [10].
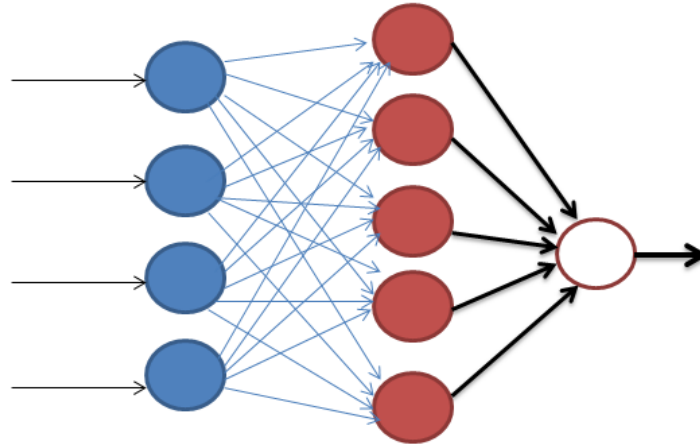

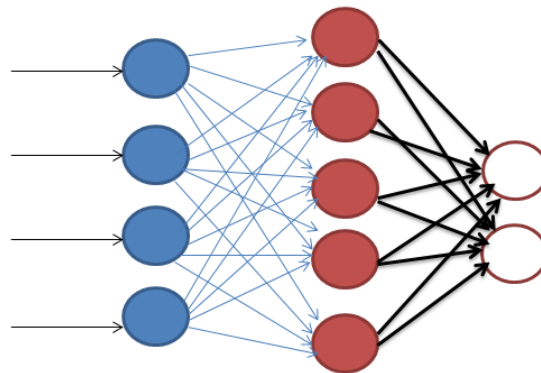**FIGURE 1. - Simple Neural Network**

FIGURE 2. - Artificial Neural Network

4. Approach and Result

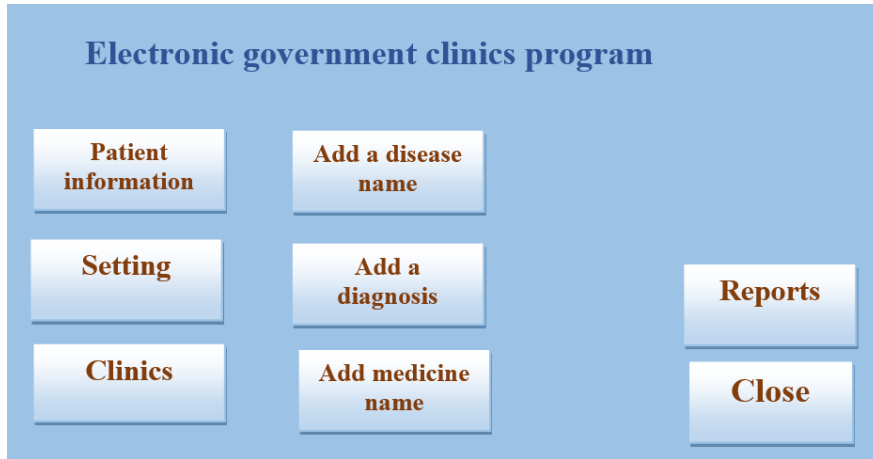V.B.net, Python and Oracle Languages were used in designing the software, see Fig. 3.illustrates that.

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FIGURE 3. - the main interface for software program

A classifier is represented via utilizing discriminant functions.
For every class i = 0,1, … that defines a function gi (x) mapping by utilizing Python.
    As the decision on input x is made to choose the class with the biggest value, see Fig. 4, see Fig. 5.
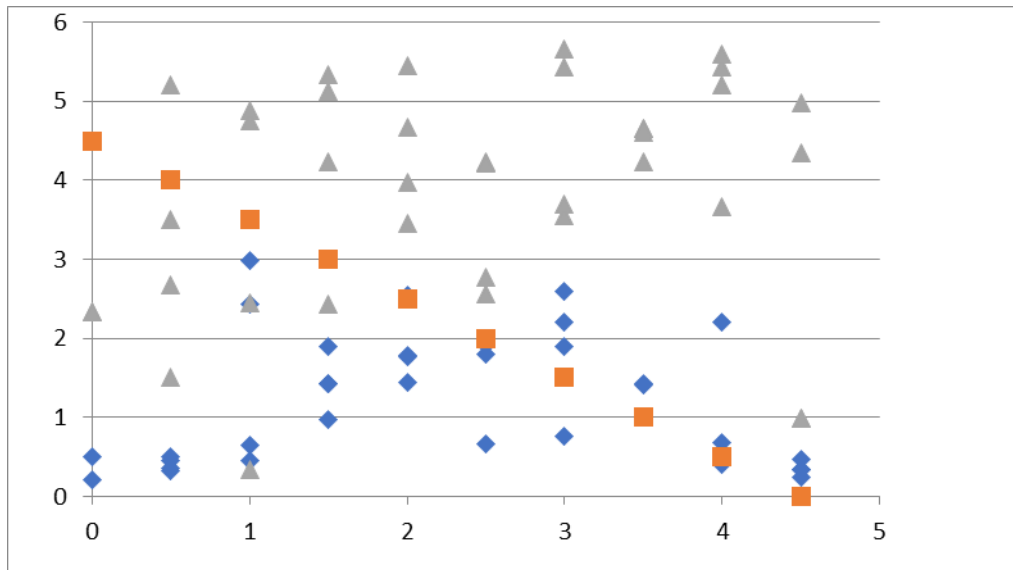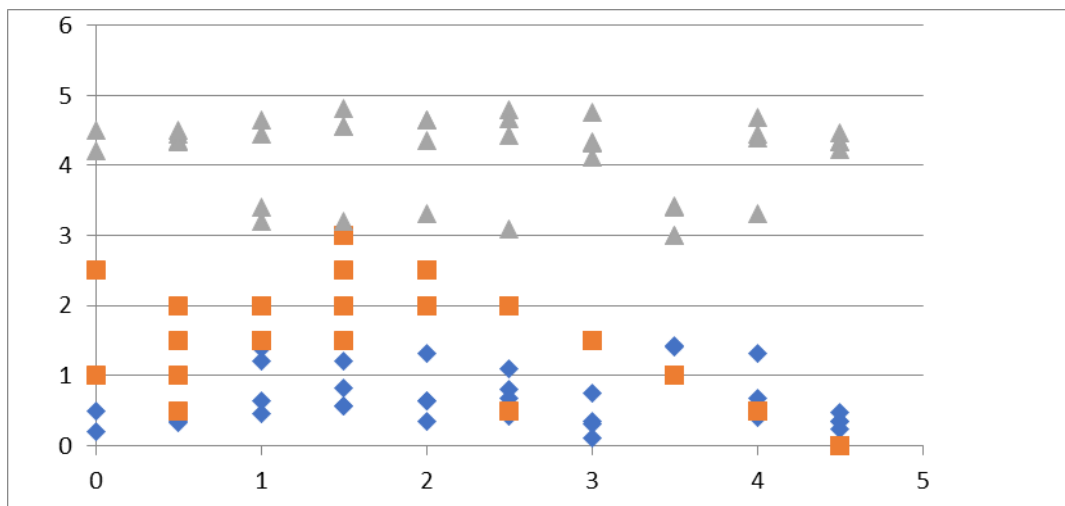   .

FIGURE 4. - define decision boundary

FIGURE 5. - quadratic decision boundary

The techniques of query processing have been created, and they establish on the primitives submitted by the state-of-the-art Natural Language Processing ways.

In this research, a basic Neural Network in Oracle 18c will be built by utilizing the default settings. We have got two steps to make a Neural Network, or any in-database machine learning model. First of all, it defines the basic settings. Second, it runs the algorithm built on those basic settings.

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