Simulation Analysis on Network Topology Control of Wireless Sensor Based on Bias Quantile

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Abstract. The shortage of human demand change in business enterprise provides an opportunity for employment concept change, which makes the employment concept sample data capacity greatly increased. In order to realize the analysis of large sample data, this paper does curve fitting on the employment large sample data, using Bias quantile coupling and intelligent decoupling process to calculate coupling balance degree of supply and demand data, finally uses MATLAB software to program the algorithm. Through the simulation iterative calculation, the fitted curve of talent supply and demand data in business enterprise is obtained, finally this paper uses the Bias quantile balance optimization algorithm to obtain the fitting the curve of supply and demand in good condition, which provides a new computer method for employment large sample data mining.

Introduction

Bias classification algorithm is a classification method in statistical, which uses the probability and statistics knowledge. With the rapid development of the business enterprise, this model can be applied in large sample curve fitting process of e-commerce enterprises manpower supply and demand data, and can improve the fitting precision in simulation. E-commerce refers to the trading activities and related service activities with electronic transactions in the internet, intranet and value-added networks, which is electronic and network of the traditional business activity [1]. The shortage of human demand change in business enterprise provides an opportunity for employment concept change. This paper uses the coupling and intelligent decoupling process, combined with Bias , and calculates unbalanced degree of fitting. The overall frame structure is as below.

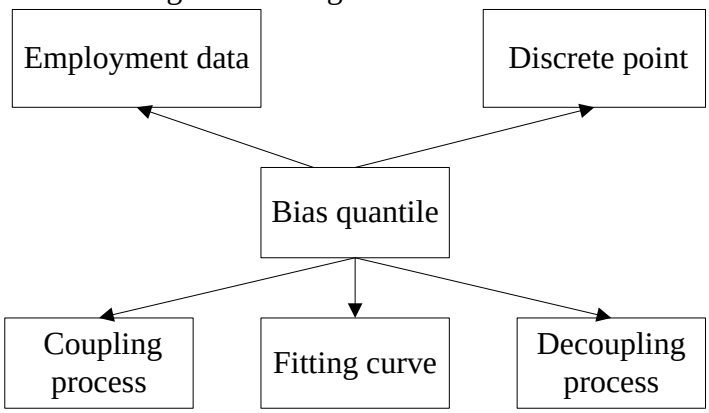

Fig.1: Schematic diagram of Web-MIS loose coupling system development

Figure 1 the graph of Bias intelligent coupling system development. From the chart it can be seen, the framework model is mainly based on Bias theory to discrete the employment large data sample, and reaches equilibrium optimization by coupling and decoupling process[2].

From the overall situation, the current situation of our country's labor force is that one is more and the other one is shortage, that is to say the total supply of labor force is more than demand, while the supply of the one who is engaged in professional and technical research and the engineering type is less than the demand[3]. With the rapid development of science and technology, Web technology has been widely applied to engineering practice. This paper uses the real-time and interactive performance developed by Web page to upgrade and improve the entering, updating,

statistics, querying and other functions of Web system, which has realized the good loosely coupled performance of the system. Finally, the paper takes the design of college students' employment information platform as an example, and uses the JZEE software development platform to design the information platform of college students' employment under the environment of Spring development, which has obtained the updated data table of employment status and the real time updated curve of employment, and has provided theoretical foundation for the study of the employment of college students[4].

Simulation Algorithm Design of Bias Intelligent Decoupling

Using the coupling and decoupling process of Bias , principle can be applied in the exploration of employment concept, and MATLAB data discrete can program the coupling and decoupling process [5]. The personnel supply and demand data coupling discrete form of business enterprise can be expressed as shown in formula (1).

$$W(x) = X_p(x) \times e(x) + X_i(x) \times \sum_{n=0}^{x} e(n) \quad . \tag{1}$$

The corresponding correction parameter is as follows:

$$\begin{cases} X_p(x) = X_p(x-1) + \Delta X_p(x) \\ X_i(x) = X_i(x-1) + \Delta X_i(x) \end{cases} \quad . \tag{2}$$

$X_p(x)$ and $X_i(x)$ are respectively coupling sample data; $\Delta X_p(x)$, $\Delta X_i(x)$ respectively are unbalance degree based on coupling [6]. The balance deviation using PI intelligent decoupling controller can be written as:

$$\begin{cases} X_p(x) = f_1(e, ek) \\ X_i(x) = f_2(e, ek) \end{cases} \quad . \tag{3}$$

Using coupling and decoupling process, the fuzzy domain $\Delta X_p(x)$ and $\Delta X_i(x)$ can be defined as shown in the formula (4).

$$\Delta X_p(x), \Delta X_i(x) = \{-10, -9, \cdots, 9, 10\} \quad . \tag{4}$$

The designed new network teaching system mainly uses the spatial statistical analysis as the mathematical theory. The spatial statistical analysis is usually defined as a binary symmetric spatial weight matrix W which is to express the proximity relationship of space region of n positions[5]. The form is as shown in formula (1).

$$W = \begin{bmatrix} w_{11} & w_{12} & \cdots & w_{1n} \\ w_{21} & w_{22} & \cdots & w_{2n} \\ \cdots & \cdots & \cdots & \cdots \\ w_{n1} & w_{n2} & \cdots & w_{nn} \end{bmatrix} \tag{5}$$

w_{ij} represents the proximity relationship between *i* and *j*. If x_i is the observation value of position i, the similar degree of attribute value of space adjacent or space proximity regional unit can be expressed as the formula (2).

$$I = \frac{n \sum_{i=1}^{n} \sum_{j=1}^{n} w_{ij} (x_i - \bar{x})(x_j - \bar{x})}{\sum_{i=1}^{n} \sum_{j=1}^{n} w_{ij} \sum_{i=1}^{n} (x_i - \bar{x})^2} = \frac{\sum_{i=1}^{n} \sum_{j \neq i}^{n} w_{ij} (x_i - \bar{x})(x_j - \bar{x})}{S^2 \sum_{i=1}^{n} \sum_{j \neq i}^{n} w_{ij}} \tag{6}$$

S represents the variance, and its expression is as shown in formula (3).

$$S^2 = \frac{1}{n}\sum_i (x_i - \bar{x})^2 \tag{7}$$

$\bar{x}$ represents the average value, and its expression is as shown in formula (4).

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i \tag{8}$$

In order to realize the coupling and intelligent decoupling process of data, this paper uses MATLAB software to program the algorithm, and the main program of data retrieval is as follows:

```
for n=1:length(zcr);
goto=0;
switch status
 case{0,1}
    if amp(n)>amp1
       x1=max(n-count-1,1);
        status=2;
          silence=0;
          count=count+1;
   elseif amp(n)>amp2|...
        zcr(n)>zcr2
        status=1;
         count=count+1;
          else
              status=0;
              count=0;
          end
.....
```

Computer Simulation of Unbalanced Degree Intelligent Decoupling

In order to verify the effectiveness and reliability of coupling and decoupling unbalanced simulation algorithm designed in second section, this paper uses MATLAB software to do curve fitting on the talent supply and demand data [6-8]. The fitting process mainly uses Simulink toolbox of MATLAB, and the parameters setting of fitting curve is as shown in Figure 2.

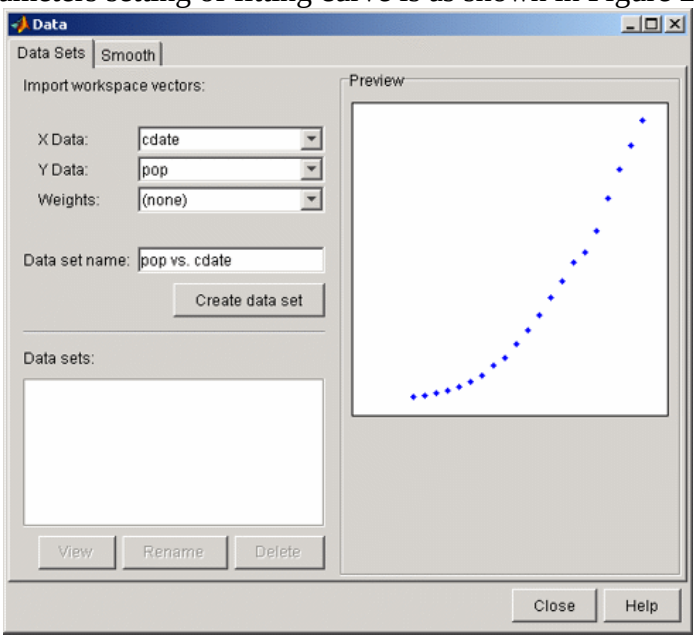

Fig.2: Basic settings of MATLAB fitting curve

By setting parameters as shown in Figure 2, it can complete a curve fitting, very convenient. If the fitting effect is not good, it also can click "New fit" button in the "Fitting" window, completing a new fitting according to the steps.

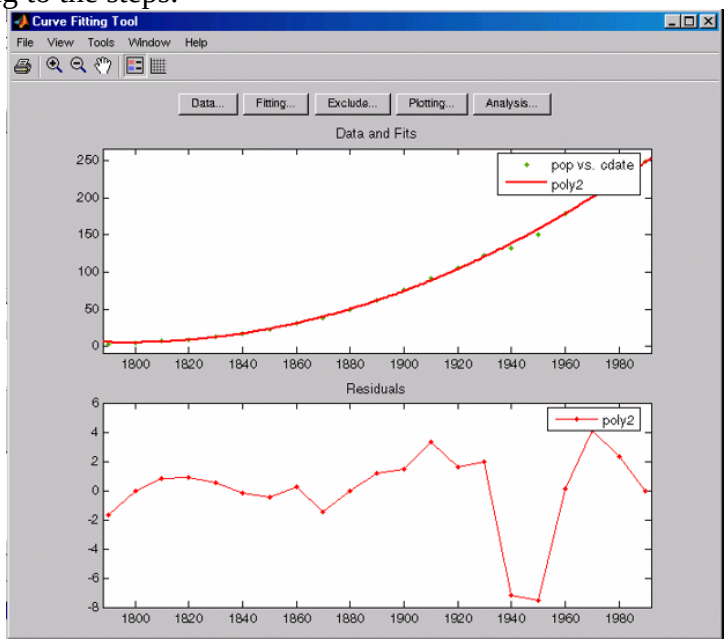

Fig.3: MATLAB fitting curve output

As shown in Figure 3, the output of the MATLAB fitting curve includes two forms: one is a linear form, the other is curve form [9]. Through the fitting of data scatter, it can get the regularity balance curve, which provides visual reference for data analysis.

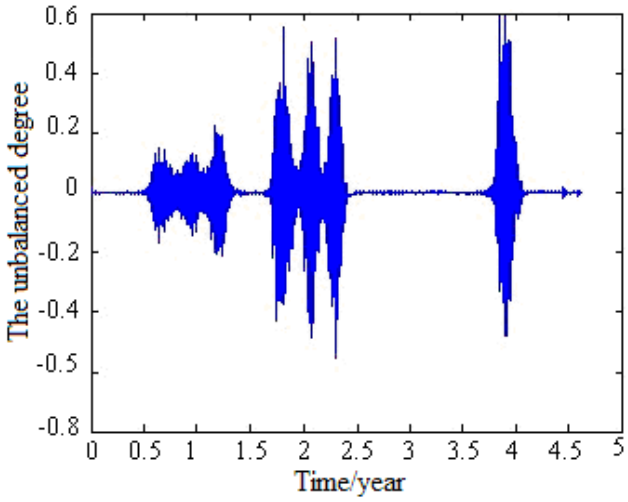

Fig.4: The coupling balance degree calculation results

Figure 4 shows the personnel data supply and demand equilibrium simulation curve for human large sample data balance simulation of electronic commerce enterprise [10]. From the chart it can be seen, along with the different time, the balance degree has a lot of volatility, which shows obvious imbalance in supply and demand data coupling.

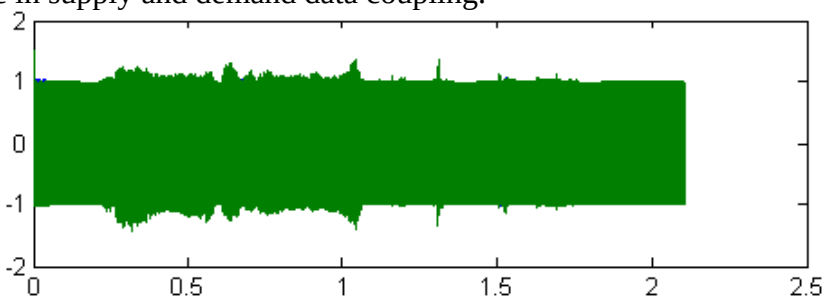

Fig.5: Balance optimization results

Figure 5 shows the results through MATLAB after employment concept changing. From the figure it can be seen, the data show a good balance degree.

Social resources provide to material basis for the formation of college students' employment and the sustainable development of college students' employment. Only real-time and comprehensively grasp the basic situation of social resources can we realize the effective management of social resources[11]. On the basis of the mathematical model and algorithm which is designed in the second section, we establishes the positive feedback factor system of employment, and realizes the entering, updating, statistics, querying and other functions of college students' employment data under the environment of Web operation, which has realized the real-time interaction between users and the computer, and has realized the entering, management, querying, statistics and dynamic updating of regional social resource under the environment of Internet to well satisfy needs of the employment resource sharing for the users[12].

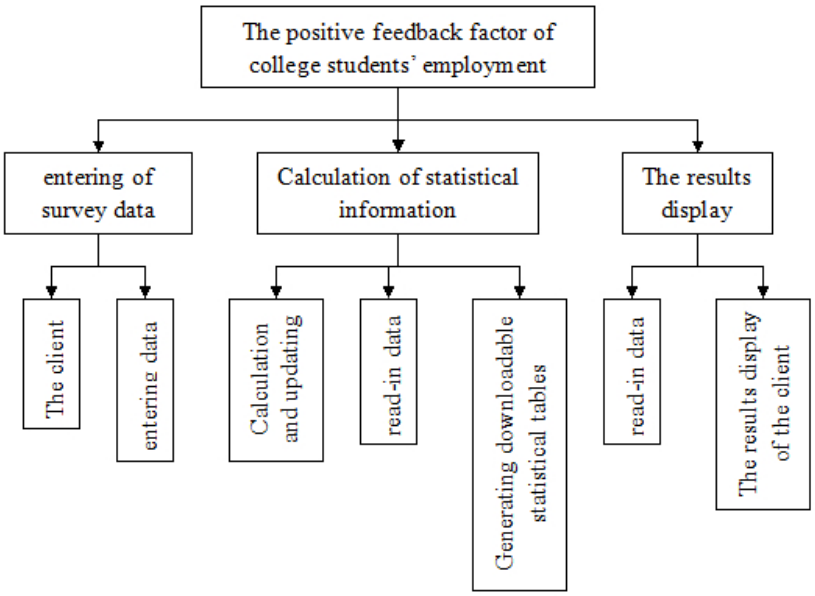

Fig.6: The positive feedback factor of college students' employment

In Figure 6, the positive feedback factor framework of college students' employment is mainly composed of three parts. The first part is the survey data entering system, including the user login and the data entering. The second part is the calculation of the statistical system, including the calculation of statistics updating and the read-in of data statistics[10]. The third part is the results display system, including the data statistical calculation and the results display of the client. On the coordination of the three parts, the client can enter data conveniently and view the results, at the same time, the real-time and reliability of the system can be achieved.

College students should recognize the employment situation as soon as possible, firmly establish the consciousness of career planning. Meanwhile, we should make reasonable career planning according to own situation, and should start from current to make good use of the college time to study the scientific cultural knowledge, improve professional skills, enrich and perfect themselves, and to improve their comprehensive competitive strength.

Summary

In order to realize the large sample data mining for business enterprise, based on the basis of Bias coupling and intelligent decoupling, this paper adopts the balance degree optimization algorithm and uses MATLAB to program the algorithm. Through numerical simulation, this paper obtained human resources large sample data, Bayesian supply and demand equilibrium curve, and through the optimization gets reasonable distribution curve. But the algorithm only tests the balanced degree,

it needs to further study other characteristic of data sample and further improve the reliability of the employment data samples.

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