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EXPLORING INFLUENCING FACTORS OF UNIVERSITY ENROLLMENT USING NEURAL NETWORK

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ABSTRACT

Purpose- This study intends to investigate the factors that affect the enrollment in Taiwan's colleges and universities. The subjects were selected by random sampling methods from senior high school graduates who were about to enter colleges.
Methodology- By implementing the Alyuda NeuroIntelligence software, this study applied neural network simulation and prediction analysis on the data of 100 questionnaires.
Findings- The results showed that the influencing factors of school enrollment and their degree of relevance and importance are: (1) curriculum, (2) chance of oversea study, (3) faculty, (4) scholarship, (5) tuition, (6) location, (7) internship, (8) career, (9) campus and (10) reputation.
Conclusion- It is hoped that the research results discovered in this study can help relevant schools to understand students' total evaluation of schools and willingness to study, and serve as an important reference for schools to strengthen enrollment strategy and improve the quality of school operation in the future.

Keywords: University enrollment, influencing factors, artificial intelligence, neural network, forecast
JEL Codes: I21, I23

1. INTRODUCTION

It is widely known that the higher education plays a critical role in the development of a country and achievement of personal career, thus, the quality and performance of the higher education is fundamental to the competitiveness of a nation.

In recent years, Taiwan's higher education market is under significant impact by the influence of fewer birth rate and the establishment of too many colleges and universities over the past 20 years. Some colleges and universities have decided to reduce enrolment or even stop student recruitment because of insufficient students. The Ministry of Education of Taiwan has initiated a blacklist of schools with poor performance, therefore, enrollment has become the most important task for colleges and universities, and the success of high enrollment rate has become the key to the survival and sustainable development of colleges and universities.

In order to solve the enrollment problems faced by Taiwan's colleges and universities, it has become a necessary and urgent task to fully understand and well manage the influencing factors of successful enrollment. This study aims to investigate and analyze the influencing factors of enrollment in Taiwan's colleges and universities. Instead of using the traditional methods of statistical analysis, this study utilized neural network to analyze data collected from a questionnaire survey and developed a model for successful enrolment. By training and testing the neural network model, the generated results of the model are analyzed, and the

correlation and priority of the influencing factors are compared. Consequently, the students' overall evaluation of the universities and willingness to study can be revealed. The outcomes of this study can be an important reference for universities to strengthen enrollment strategy and to improve the quality and performance of future operation.

This paper is composed of the following sections, the introduction, literature review, research methodology, data analysis and conclusion.

2. LITERATURE REVIEW

Artificial intelligence (AI) refers to the intelligence shown by machines made by human beings, which means the technology of realizing human intelligence through computer programs. Alan Turing (2009), a British mathematician, first proposed the concept of machine intelligence in 1950, while the term "artificial intelligence" was used by researchers at a meeting of Dartmouth College in 1956, when it was officially named by John McCarthy, the creator father of LISP, who was responsible for organizing the meeting. Because of this, Dartmouth Conference became the classic origin of AI (McCarthy, 1989). Since then, many fields such as mathematics, logic, cognitive science and life science actively carried out theoretical researches on AI. In the late 1990s, advances in computer hardware and software technology also promoted the research of AI to make major breakthroughs, and then to achieve application of AI in various fields around human beings (Ghahramani, 2015).

With regard to artificial intelligence, computer scientists expect to directly imitate the operation of biological neurons, so they design mathematical models to simulate the structure and functions of animal neural networks. Artificial intelligence neural networks are functional calculus imitating the operation of neurons, which can receive the stimulation of external information input and convert the input into output response according to the weight of different stimulation effects, or can be used to change the intrinsic function to adapt to mathematical model under different situations (Hagan et al., 1996). Simply speaking, artificial intelligence neural network simulates the operation of biological neurons with mathematical functions, simulates the nerve conduction and response of organisms through mathematical models, through which it receives stimulus from external information input and converts such input into output response according to different stimulus influence weights.

In 1951, a scientist Marvin Minsky built Snarc, the world's first neuron simulator, which can cross the maze with the help of 40 agents and a reward system (Kelemen, 2007). In 1957, Frank Rosenblatt of Cornell Aeronautical Engineering Laboratory designed Perceptron of neural networks (Rosenblatt, 1958). Scholars of artificial intelligence neural network were very excited about it, believing that this breakthrough would eventually lead the artificial intelligence toward a new stage of development. In 1970s, however, due to the lack of large-scale data and unimproved computational complexity, the researches in the field of artificial intelligence was unable to expand the small-scale problem into a large-scale problem, which led to stagnation of the research due to the inability to obtain more investment in budget for scientific research in the field of calculators. By 1980s, scientists first designed new calculating methods to simulate human neurons through breakthroughs in thinking, leading to the renaissance period of the development of neural networks (O'Leary, 1997). In 1982, physicist John Hopfield first published Hopfield neural networks, which opened up the thinking that neural networks can be designed recursively (Hopfield, 1982). In 1986, Professor David Rumelhart of the University of California, San Diego, proposed Back Propagation (Rumelhart, Hinton and Williams, 1988), which measures the change of "stimulus" through each input of data to calculate the weight that needs to be corrected and feed back to the original function, further refreshing the significance of machine learning. Scientists have further extended neurons into neural networks. Artificial intelligence neural networks formed by multi-layered neurons can retain more "stimulated" "memory" in function expression (Rumelhart et al., 1995).

At present, the multi-layer artificial intelligence neural network model mainly includes input layer, hidden layer and output layer. In addition, according to the direction of data input flow, it can be divided into one-way flow or back propagation method which can update the weights of the previous layer (Hecht-Nielsen, 1992). Because the neural network model relies heavily on the capacity of computing scale, in order to increase the flexibility of the highly abstract data layer, computer scientists compounded it into a model with greater complexity and multiple layers supported with multiple nonlinear transformations, which is named as Deep Learning (LeCun, Bengio and Hinton, 2015). Deep learning is a branch of machine learning and also the mainstream direction of AI development. Its concept is mainly compounding artificial intelligence artificial neural network with complex multi-layer structure, and making multiple nonlinear transformation of its functions to add highly abstract data and memory data influence ability (Bengio, 2009).

The development direction of AI is to design and analyze some algorithms that allow computers to "learn" automatically, so that computers can establish rules from the process of automatic analysis of data, and use these rules to predict unknown data that

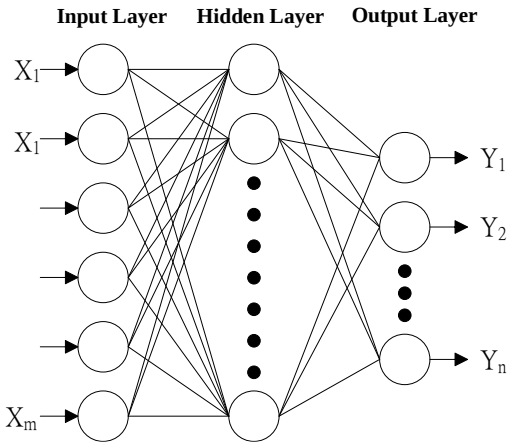
have not been analyzed. In the process, statistical techniques are often used and converted into computer programs, and then the demarcation conditions of data are calculated to make prediction. With regard to the way of development in the field of artificial intelligence, whether it is supervised learning or unsupervised learning, when the data is collected in large scale, rapidly transmitted through the Internet and then computed by cloud architecture, it is no longer an unreachable goal to solve basic problems of human beings by AI technology (Ramos, Augusto and Shapiro, 2008). At present, artificial intelligence neural network is also one of the most widely used technologies in artificial intelligence commerce. It has been proved that it can be successfully applied in search engine, image recognition, biometric recognition, speech and handwriting recognition and other fields. In the future, more practical applications will be realized in various fields (Russell and Norvig, 2016).

3. RESEARCH METHODOLOGY

This study investigated the factors that affect the enrollment in Taiwan's colleges and universities. The subjects were selected by random sampling methods from senior high school graduates who were about to enter colleges. This study collected relevant literature on influencing factors of enrollment in Taiwan's colleges and universities, and summarized students' opinions and reactions to the needs during selection of school departments and the willingness to study. This study took 10 factors of enrollment, namely location, tuition, reputation, career, scholarship, internship, oversea study, curriculum, faculty and campus, as independent variables, and students' total evaluation of the school as a dependent variable. A random sampling survey was conducted among 100 junior high school graduates who participated in an enrollment initiative of a university in Taiwan. Likert Scale 5-point attitude scale was used to divide the influencing factors of enrollment and the events of the total evaluation of the school into five levels: very high, high, medium, low and very low in order to understand the attitudes or opinions of the subjects on the influencing factors of a certain enrollment.

In this study, analysis based on the back-propagation neural network model, the basic principle of which is to minimize the error function by using the concept of Gradient Steepest Descent Method. The structure of back-propagation neural network includes input layer, hidden layer and output layer, as shown in Figure 1.

Figure 1: Structure of Back-Propagation Neural Network



Input layer: To represent input variables of neural network. The number of its processing units depends on the problem. Linear transformation functions are used, as shown in Equation (1):

$$f(x) = x \quad (1)$$

Hidden Layer: To represent the interaction between input processing units. There is no standard method to determine the number of processing units. Usually, the optimal number of processing units is determined by experimental method. Non-linear transformation functions are used. The network can have more than one hidden layer or no hidden layer.

Output Layer: To represent the output variables of neural network. The number of processing units depends on the problem. Nonlinear transformation functions are used.

The relationship between input value and output value of processing unit can generally be expressed by the function of the weighted product sum of the input value, as shown in Equations (2) and (3):

$$Y_j = \mathrm{f}(net_j) \quad (2)$$

$$net_j = \sum W_{ij} X_i - \theta_j \quad (3)$$

where,

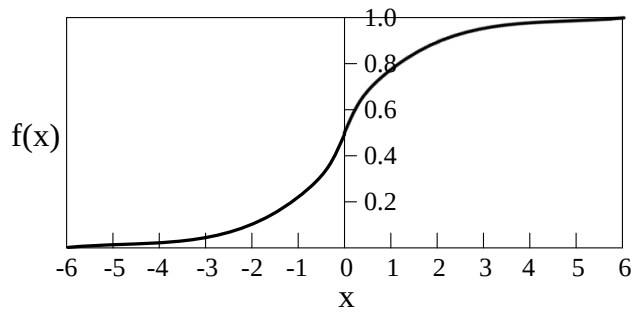
$Y_j =$ Output variables, which imitate the output signals of the biological neuron model

$\mathrm{f} =$ Conversion function, which imitates the non-linear processing program of the biological neuron model. It is a mathematical formula used to convert the weighted product sum of input values of processing units into the output of processing units. Conversion function is usually used, as shown in Equation (4):

$$f(x) = \frac{1}{1+e^{-x}} \quad (4)$$

When the independent variable approaches positive or negative infinity, the value of the function approaches (0, 1), as shown in Figure 2.

Figure 2: Conversion Function



$W_{ij} =$ Link weighted value, which imitates the synaptic strength of the biological neuron model.

$X_i =$ Input variables, which imitate the input signals of the biological neuron model.

$\theta_j =$ Partial Weight, which imitates the threshold value of the biological neuron model

According to the back-propagation neural network model, this study uses Alyuda NeuroIntelligence software to process the questionnaire data, develop prediction model and finally obtain solution to the problem. Through training and testing of the neural network model, the output results are analyzed and summarized to determine the influencing factors of school enrollment and level of correlation, so as to understand the students' total evaluation of the school and their willingness to study.

The research processes are as follows:

Step 1: Establish research motivation and purpose, and define research topics.

Step 2: Collect relevant literatures on influencing factors of enrollment in colleges and universities.

Step 3: Design questionnaire after summarizing and collating relevant literatures and students' opinions and reactions to the needs in choosing the school and their willingness to study.

Step 4: Conduct questionnaire survey among 100 senior school graduates by random sampling. Collect the data, compile it into excel worksheet and then import the data into neural network software.

Step 5: Implement the Alyuda NeuroIntelligence software and apply neural network simulation and prediction analysis on the data of 100 questionnaires. Among them, 70 data are used for training and testing for modeling, and 30 data are used for prediction and analysis after obtaining the model.

Step 6: Analyze and compare the influencing factors. With the initial predicted value as the benchmark, this study revises the input value of 10 influencing factors in turn. A total of 10 modifications are executed, with one influencing factor modified each time. Then, record the initial predicted value and the modified predicted value.

Step 7: Calculate the difference between the initial and modified predicted value by using Root Mean Square Error (RMSE) and analyze the correlation degree and importance ranking of the influencing factors for the overall evaluation of the school.

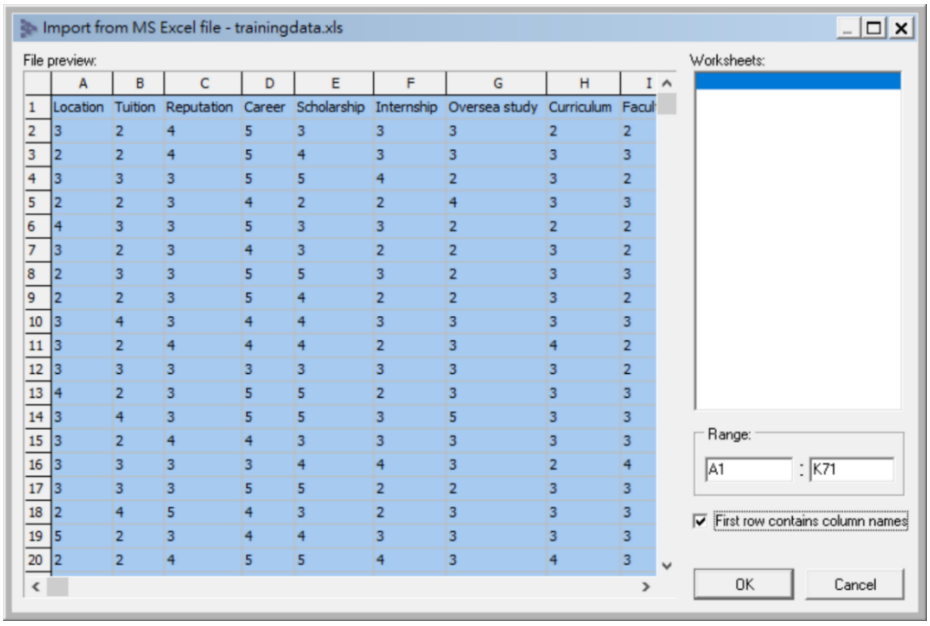
Step 8: Conclude the study.

4. DATA ANALYSIS

With the above-mentioned research methods, this study investigated the factors influencing the enrollment of Taiwan's colleges and universities. The results of the relevant data analysis are as follows:

The questionnaire survey were collected and compiled into excel worksheet, and input into Alyuda Neuro Intelligence software, as shown in Figure 3.

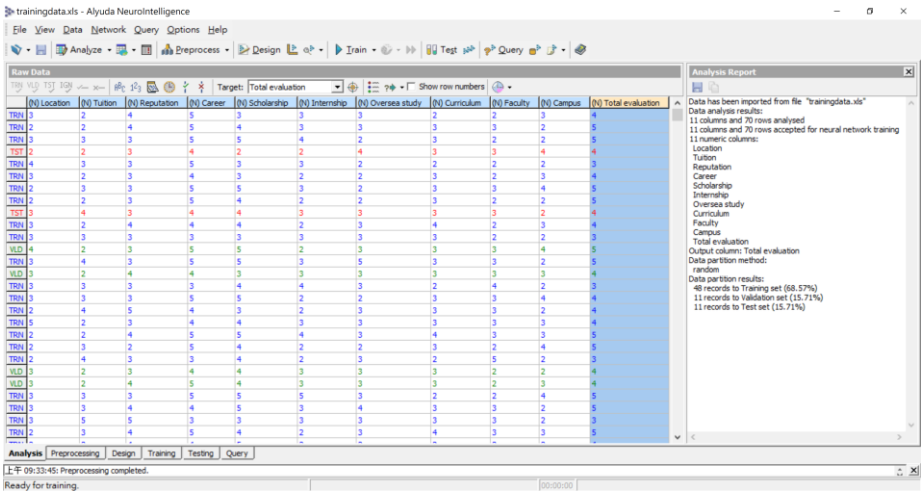
Figure 3: Data Input



	A	B	C	D	E	F	G	H	I
1	Location	Tuition	Reputation	Career	Scholarship	Internship	Oversea study	Curriculum	Facul
2	3	2	4	5	3	3	3	2	2
3	2	2	4	5	4	3	3	3	3
4	3	3	3	5	5	4	2	3	2
5	2	2	3	4	2	2	4	3	3
6	4	3	3	5	3	3	2	2	2
7	3	2	3	4	3	2	2	3	2
8	2	3	3	5	5	3	2	3	3
9	2	2	3	5	4	2	2	3	2
10	3	4	3	4	4	3	3	3	3
11	3	2	4	4	4	2	3	4	2
12	3	3	3	3	3	3	3	3	2
13	4	2	3	5	5	2	3	3	3
14	3	4	3	5	5	3	5	3	3
15	3	2	4	4	3	3	3	3	3
16	3	3	3	3	4	4	3	2	4
17	3	3	3	5	5	2	2	3	3
18	2	4	5	4	3	2	3	3	3
19	5	2	3	4	4	3	3	3	3
20	2	2	4	5	5	4	3	4	3

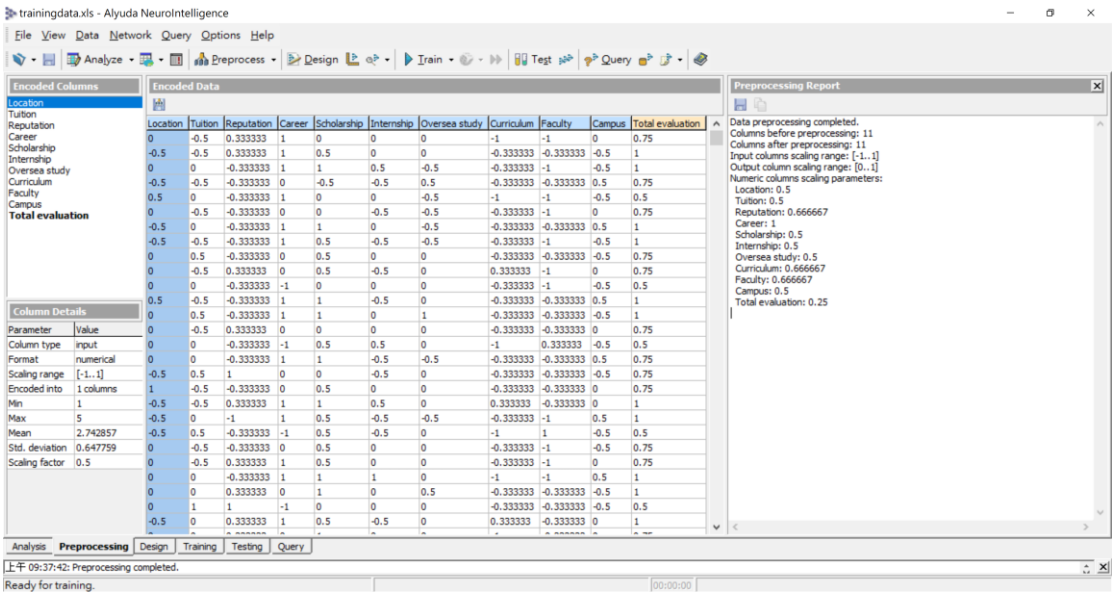
The processing flow of Alyuda NeuroIntelligence software are analyzing, preprocessing, design, training, testing and prediction. After data importation, Alyuda NeuroIntelligence analyzed the data to define parameters and test whether there were abnormalities in the data. This study took 10 factors of enrollment, namely location, tuition, reputation, career, scholarship, internship, oversea study, curriculum, faculty and campus, as independent variables, and students' total evaluation of the school as a dependent variable, as shown in Figure 4.

Figure 4: Data Analysis



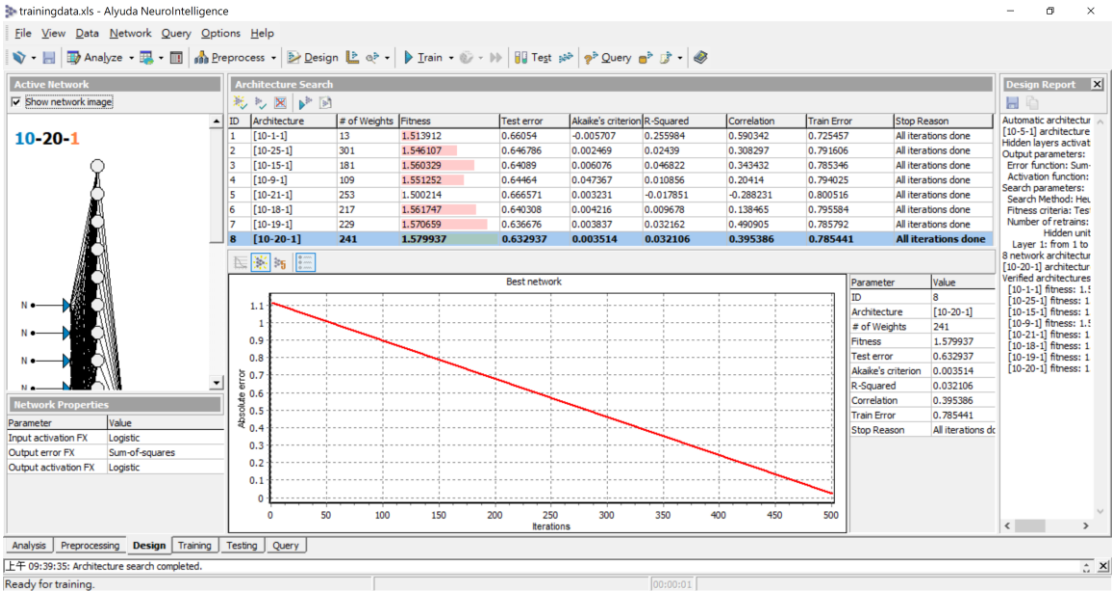
After data analysis is completed, data preprocessing is carried out. The main purpose of data preprocessing is to convert the original data of each column into the data that can be analyzed by the software. Alyuda NeuroIntelligence software will convert the values of independent variables into [1, -1], and the values of dependent variables into [0, 1], as shown in Figure 5.

Figure 5: Data Preprocessing



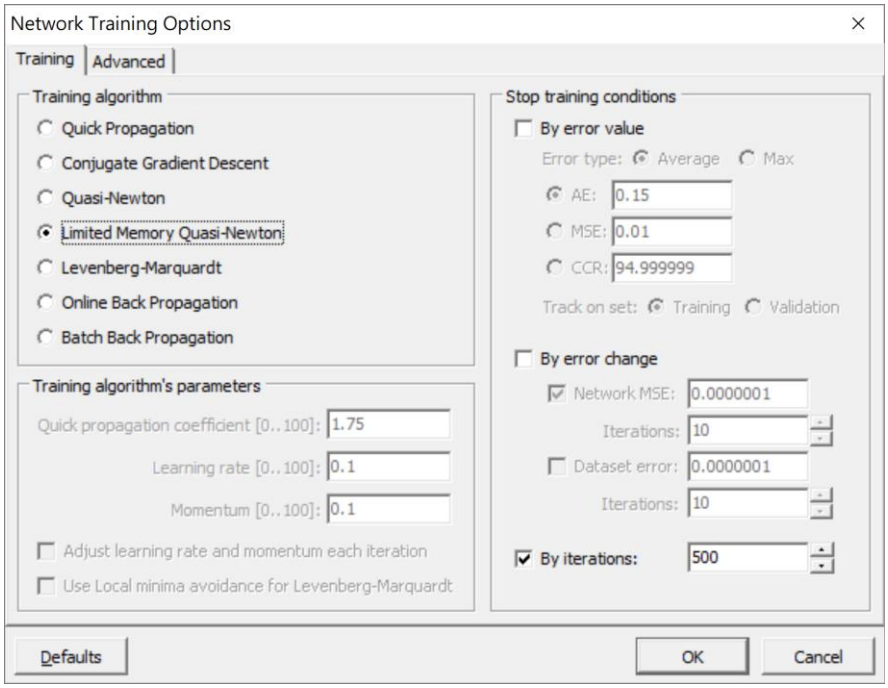
After data preprocessing is completed, Alyuda Neuro Intelligence software is used to design the neural network architecture, and set the architecture of input layer, the hidden layer and the output layer of the network, as well as the number of neurons in hidden layer, as shown in Figure 6.

Figure 6: Neural Network Design



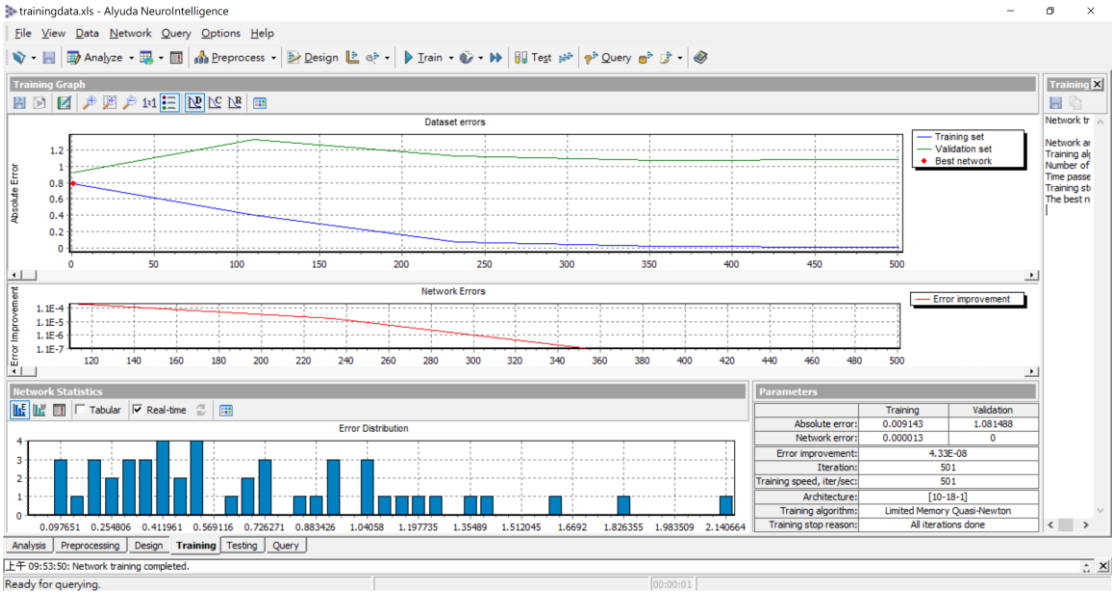
After completing the design of neural network architecture, some relevant parameters must be set before data training. Limited Memory Quasi-Newton is selected as the training algorithm, and 500 training cycles are set as well, as shown in Figure 7.

Figure 7: Neural Network Training Algorithm



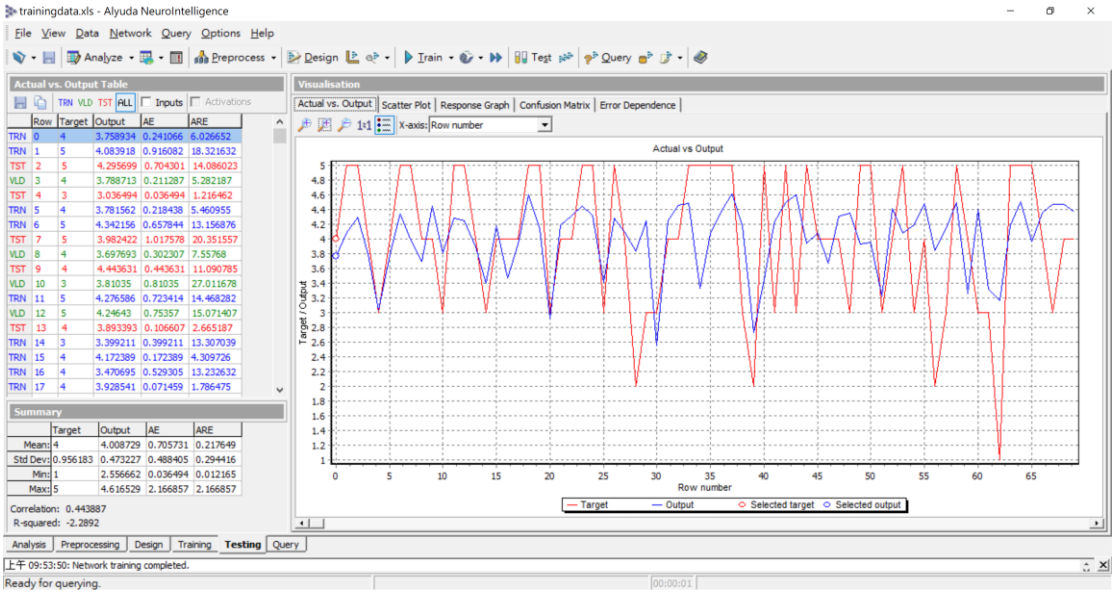
After completing the setting, data training is carried out by the software. When training is completed, the relevant messages and graphics showed that the neural network model has converged, as shown Figure 8.

Figure 8: Data Training



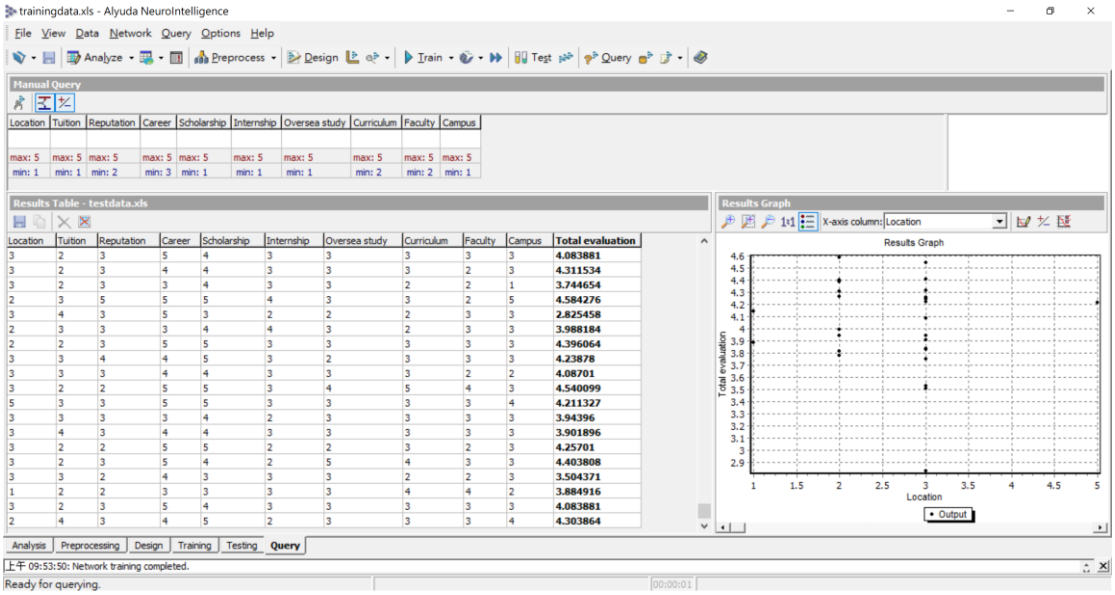
After obtaining the model through data training, data testing can be carried out to examine the prediction accuracy of the model. After testing the model in this study, the relevant messages and graphics indicated that the neural network model presented good prediction accuracy, and therefore, the initial model of the neural network was successfully completed, as shown in Figure 9.

Figure 9: Data Testing



The model developed by the software was then used to predict the remaining 30 data, and results are as shown in Figure 10.

Figure 10: Data Prediction



The predicted data are then exported and the predicted results are recorded as the initial predicted values, as shown in Figure 11.

Figure 11: Initial Predicted Values

1	NEURAL NETWORK QUERY RESULTS										
2	Generator: Alyuda NeuroIntelligence 2.1 (522)										
3	Dataset used for training: C:\Users\CTBCUser\Desktop\testdata.xls										
4	Date: 2019/2/22										
5	Time: 09:57:13										
6											
7	Location	Tuition	Reputation	Career	Scholarship	Internship	Oversea study	Curriculum	Faculty	Campus	Total evaluation
8	2	3	2	5	3	3	4	3	3	3	3.81549
9	3	3	2	4	5	3	3	3	4	2	3.830248
10	3	3	3	4	4	2	3	2	3	3	3.523058
11	1	5	2	3	4	3	3	3	3	4	4.138592
12	2	3	3	4	5	2	3	3	5	3	3.814086
13	2	3	3	5	5	2	2	3	3	2	3.937781
14	3	3	3	5	3	3	5	4	3	3	4.216716
15	2	4	2	4	5	3	2	2	3	3	3.774914
16	2	3	3	4	5	3	2	3	3	3	4.263947
17	3	2	2	3	3	5	2	2	2	3	3.829579
18	2	3	2	5	5	3	3	3	3	4	4.382721
19	3	2	3	5	4	3	3	3	3	3	4.083881
20	3	2	3	4	4	3	3	3	2	3	4.311534
21	3	2	3	3	4	3	3	2	2	1	3.744654
22	2	3	5	5	5	4	3	3	2	5	4.584276
23	3	4	3	5	3	2	2	2	3	3	2.825458
24	2	3	3	3	4	4	3	2	3	3	3.988184
25	2	2	3	5	5	3	3	3	3	3	4.396064
26	3	3	4	4	5	3	2	3	3	3	4.23878
27	3	3	3	4	4	3	3	3	2	2	4.08701
28	3	2	2	5	5	3	4	5	4	3	4.540099
29	5	3	3	5	5	3	3	3	3	4	4.211327
30	3	3	3	3	4	2	3	3	3	3	3.94396
31	3	4	3	4	4	3	3	3	3	3	3.901896
32	3	2	2	5	5	2	2	3	2	3	4.25701
33	3	2	3	5	4	2	5	4	3	3	4.403808

result all location tuition reputation career scholarship internship ov ...

To determine the relative importance of influencing factors, the initial predicted values are taken as the benchmark, and the input values of the 10 factors are modified in turn, with one factor modified at a time, and a total of 10 modifications are conducted sequentially. While the input values are modified, all the original values of the influencing factors are changed to 1, as shown in Figure 12. Then the modified input values are sequentially incorporated into the neural network that had been modeled to obtain the modified predicted values of 10 influencing factors.

Root mean square error is used to calculate the difference between the initial predicted value and the modified predicted value and analyze the level of correlation and priority of each influencing factor to the total evaluation of the school, as shown in Figure 13. The larger the root mean square error of the influencing factor is, the higher the modified initial predicted value is, that is, the higher the degree of correlation priority of the influencing factor to the total evaluation of the school.

The results showed that the influencing factors of enrollment and their degree of relevance and importance are: (1)curriculum, (2)chance of oversea study, (3)faculty, (4)scholarship, (5)tuition, (6)location, (7)internship, (8)career, (9)campus and (10)reputation.

Figure 12: Modified Input Values

	Location	Tuition	Reputation	Career	Scholarship	Internship	Oversea stu	Curriculum	Faculty	Campus
2	1	3	2	5	3	3	4	3	3	3
3	1	3	2	4	5	3	3	3	4	2
4	1	3	3	4	4	2	3	2	3	3
5	1	5	2	3	4	3	3	3	3	4
6	1	3	3	4	5	2	3	3	5	3
7	1	3	3	5	5	2	2	3	3	2
8	1	3	3	5	3	3	5	4	3	3
9	1	4	2	4	5	3	2	2	3	3
10	1	3	3	4	5	3	2	3	3	3
11	1	2	2	3	3	5	2	2	2	3
12	1	3	2	5	5	3	3	3	3	4
13	1	2	3	5	4	3	3	3	3	3
14	1	2	3	4	4	3	3	3	2	3
15	1	2	3	3	4	3	3	2	2	1
16	1	3	5	5	5	4	3	3	2	5
17	1	4	3	5	3	2	2	2	3	3
18	1	3	3	3	4	4	3	2	3	3
19	1	2	3	5	5	3	3	3	3	3
20	1	3	4	4	5	3	2	3	3	3
21	1	3	3	4	4	3	3	3	2	2
22	1	2	2	5	5	3	4	5	4	3
23	1	3	3	5	5	3	3	3	3	4
24	1	3	3	3	4	2	3	3	3	3
25	1	4	3	4	4	3	3	3	3	3
26	1	2	2	5	5	2	2	3	2	3
27	1	2	3	5	4	2	5	4	3	3
28	1	3	2	4	3	3	3	2	2	3
29	1	2	2	3	3	3	3	4	4	2
30	1	2	3	5	4	3	3	3	3	3
31	1	4	3	4	5	2	3	3	3	4

Figure 13: Correlation and Priority of Factor to Evaluation of University

	All	Location	Tuition	Reputation	Career	Scholarship	Internship	Oversea stu	Curriculum	Faculty	Campus
2	3.81549	4.029998	4.031263	4.050442	4.070188	4.020055	4.032254	3.986213	3.99678	3.98845	4.046894
3	3.830248	4.061902	4.058319	4.076505	4.080096	4.042704	4.058145	4.02676	4.023026	3.997748	4.061904
4	3.523058	3.995443	3.991417	4.037216	4.019991	3.977914	3.987488	3.958264	3.969048	3.94627	4.007344
5	4.138592	4.02205	4.041935	4.047523	4.042865	4.020087	4.029965	3.999879	3.992291	3.985718	4.056218
6	3.814086	4.045233	4.047064	4.090481	4.071241	4.031436	4.043125	4.015648	4.012247	3.968186	4.062134
7	3.937781	3.997632	3.998926	4.045344	4.038826	3.982835	3.995249	3.978519	3.963434	3.954537	4.003346
8	4.216716	4.027927	4.022214	4.068508	4.063012	4.010466	4.023409	3.963679	3.974482	3.97936	4.038015
9	3.774914	4.002862	4.010925	4.023916	4.028664	3.992655	4.005363	3.985614	3.982749	3.961065	4.020842
10	4.263947	3.994491	3.996745	4.042496	4.023978	3.980173	3.996798	3.975854	3.960248	3.952018	4.012324
11	3.829579	3.997269	3.988563	4.011957	4.009068	3.980167	4.001562	3.971931	3.970706	3.966561	4.008065
12	4.382721	4.008611	4.010244	4.029163	4.048567	3.995994	4.010453	3.977497	3.974831	3.966305	4.038554
13	4.083881	3.995743	3.985806	4.037309	4.033828	3.975794	3.990881	3.956375	3.955038	3.945581	4.006557
14	4.311534	3.991657	3.98245	4.033635	4.016893	3.972128	3.987137	3.953084	3.950739	3.960207	4.002856
15	3.744654	4.014419	4.00716	4.055643	4.024917	3.998013	4.010999	3.978735	3.988739	3.984742	4.002567
16	4.584276	3.888075	3.889738	3.995797	3.938864	3.87465	3.89519	3.855443	3.85358	3.862891	3.932142
17	2.825458	3.965018	3.962015	4.006911	4.005174	3.947864	3.95516	3.93809	3.937306	3.914509	3.975492
18	3.988184	3.999223	4.003135	4.046567	4.01632	3.98936	4.006702	3.969753	3.979186	3.957099	4.017077
19	4.396064	3.997616	3.994885	4.045316	4.039066	3.982491	3.999401	3.965763	3.963683	3.954808	4.01537
20	4.23878	3.96656	3.961225	4.036587	3.992309	3.944732	3.962184	3.940322	3.925707	3.916624	3.977758
21	4.08701	3.999142	3.994775	4.041343	4.023046	3.980454	3.995159	3.961551	3.958621	3.968291	3.998628
22	4.540099	4.079018	4.069219	4.091691	4.108957	4.058128	4.073462	4.030122	4.014593	4.014205	4.088562
23	4.211327	3.98089	3.960898	4.009166	4.006376	3.946193	3.962388	3.927335	3.926461	3.916499	3.990862
24	3.94396	4.021887	4.018103	4.063105	4.033489	4.004509	4.01408	3.986125	3.982325	3.973892	4.033162
25	3.901896	4.000302	4.000212	4.042506	4.024759	3.982152	3.996538	3.962967	3.959934	3.951313	4.012115
26	4.25701	3.998988	3.989197	4.012801	4.036278	3.978412	3.989543	3.972646	3.957898	3.967099	4.010361
27	4.403808	4.038205	4.028415	4.078058	4.069399	4.019234	4.028986	3.97413	3.984657	3.989893	4.047944
28	3.504371	3.999702	3.995275	4.014656	4.023529	3.984204	3.995681	3.962381	3.97325	3.968944	4.011249
29	3.884916	4.088372	4.092078	4.113447	4.109704	4.083334	4.096055	4.065491	4.049416	4.038152	4.098953
30	4.083881	3.995743	3.985806	4.037309	4.033828	3.975794	3.990881	3.956375	3.955038	3.945581	4.006557
31	4.303864	3.993504	4.000822	4.041093	4.023019	3.981504	3.992166	3.963462	3.959036	3.951257	4.023521
32	**RMSE**	**0.35595**	**0.35682**	**0.35028**	**0.35268**	**0.35808**	**0.35534**	**0.36239**	**0.36507**	**0.3601**	**0.35143**
33	**RANK**	6	5	10	8	4	7	2	1	3	9
34											

RMSE | Average | all | location | tuition | reputation | career | scholarship | inter ...

5. CONCLUSION

This study investigated the factors that affect the enrollment in Taiwan's colleges and universities. The subjects were selected by random sampling methods from senior high school graduates who were about to enter colleges. By implementing the Alyuda NeuroIntelligence software, this study applied neural network simulation and prediction analysis on the data of 100 questionnaires. Among them, 70 data were used for training and testing for prediction modeling, and 30 data were used for prediction and analysis after modeling. Through training and testing of the neural network model, the output results were analyzed and summarized to find out the influencing factors of school enrollment and their correlation degree, so as to understand the students' total evaluation of the school and willingness to study.

The results showed that the influencing factors of school enrollment and their degree of relevance and importance are (1)curriculum, (2)chance of oversea study, (3)faculty, (4)scholarship, (5)tuition, (6)location, (7)internship, (8)career, (9)campus and (10)reputation. Curriculum, faculty and chance of oversea study have greater correlation to and more significant influence on school enrollment. In other words, students pay more attention to these items while selecting universities and they are also the key factors influencing students' evaluation and willingness to study. In addition, scholarship, tuition, location and internship are the second most important factors affecting school enrollment. Career, campus and reputation, however, do not have significant influence on school enrollment. It is hoped that the research results presented in this study can help relevant schools to understand students' total preferences of choosing the university, and serve as an important information for universities to formulate enrollment strategy and relevant future operational activities.

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