Assessment of the Contribution of Information Adversarial Technology to Educational Development in the Context of Neural Networks

YiLin Shao,1 HanNing Lu,2 QingYuan Liu,3 and GaoShuo Li4

1 VPA School, Syracuse University, Syracuse, NY 13244, USA
2 School of Communication Engineering, University of Electronic Science and Technology of China, Hangzhou, Zhejiang 310018, China
3 School of Management, Jinyinhu Campus of Wuhan Polytechnic University, Wuhan, Hubei 430048, China
4 Marine Engineering College, Dalian Maritime University, Dalian, Liaoning 116026, China

Correspondence should be addressed to YiLin Shao; 1764200070@e.gzhu.edu.cn

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Since the 3rd technological revolution, electronic information has developed at an increasingly rapid pace and has been widely used in various aspects of people’s lives and social production. With the advent of the information society, information security is particularly important and is related to the security of various industries and fields, such as transportation, national defense, and economy. If there is a problem in information, it means that there is a problem in information countermeasures, which leads to the emergence of information countermeasures technology. At present, with the accelerated progress of socialization, the requirements for information technology talents have been raised accordingly, so schools are required to pay attention to the education and training of talents in this area to meet the needs of society and speed up the development of society. Moreover, more and more scholars are recognizing the significance of data analysis technology for education development, and some scholars have constructed learning prediction models from different educational environments and perspectives. However, some of the models have their own limitations and thus can hinder the parameter setting. Therefore, educational researchers need to combine the characteristics of their own educational environment to build a widely adaptable predictive model to provide a good foundation for the development of education. Also, on that basis, information confrontation technology should be applied to explore diverse teaching courses, improve the traditional teaching philosophy, improve the management and evaluation mechanism, provide students with diverse learning styles, emphasize the practical nature of learning, and continuously improve students’ independent problem-solving ability.

1. Preface

No matter whether it is family, school, or society, they all attach great importance to education issues. How to explore an advanced technology to promote the development of education is particularly important. In the past, the traditional confrontation technology was used, and various operations were cumbersome and could not meet the new requirements of the new era, which cannot fundamentally promote the progress and development of education. This study analyzes the existing learning prediction models and establishes new models of neural networks for continuous optimization and prediction to continuously improve the reliability and applicability of the models [1]. It is highly innovative to analyze the contribution of information adversarial technology to educational development under the neural network threshold of view, and the establishment of the prediction model of the network algorithm under the neural network threshold of view is relatively simple and can be applied to the prediction of multiple disciplines, which has an important role in educational development [2]. The neural network horizon prediction model selected in this
study can realize the analysis and mining of related elements, can effectively integrate a variety of prediction elements, and break the limitations of the original prediction model, which can be consistent with the current educational needs and characteristics of the educational environment. Therefore, the neural network threshold prediction model has high innovation and feasibility. At present, the development of Internet technology is getting faster and faster, people’s awareness of informatization in teaching is also increasing, and learning analysis technology has also developed to a large extent. In order to avoid the disconnection between application practice and basic knowledge learning in the teaching process, and to improve learning drive and professional ability, it is necessary to apply information confrontation technology in discipline construction and cultivate innovative and compound talents [3]. Therefore, in general, the establishment of a neural network threshold prediction model is helpful for the cultivation of comprehensive talents and is of great significance to both individuals and society.

2. Overview of the Concept of Comprehensive Training Courses

Now, the comprehensive practical training course concept is reformed to include the following main elements: (1) establish morality and culture to educate people. In the process of education and teaching, the process of educating people with literature and culture should be strictly implemented, and socialist culture should be integrated into the content system of cultural education. (2) Collaborative education, industry-university cooperation. We need to change the traditional view of the curriculum and pay attention to the effective combination of practical skills, academic science and technology, docking enterprise standards, and curriculum content. It is also necessary to establish "special classes," integrate enterprise resources and efficient resources and strengthen cooperation between enterprises and enterprises on the basis of research on equipment, research, sites, and talents. (3) Comprehensive assessment and diversified curriculum. Cross-collaboration can make enterprises meet the entrepreneurial and innovative spirit of students, which can expand the single course credit evaluation model, to achieve personalized development.

2.1. Training Mode of Information Technology Compound Talents. The main mode of talent training is now described in detail, as shown in Figure 1.

2.2. New Model of Experimental Teaching. At present, students only study according to the book content, but their independent thinking ability and innovation ability are relatively lacking, which is not conducive to the improvement of their own ability. Exploring the main line of compound innovative talent training, realizing comprehensive teaching at three levels, through scientific and technological innovation training, industry-university-research integration, basic experimental construction, innovative practice courses, and professional skills training, it is also necessary to cross-integrate the relationship between various modules and platforms to explore new experimental teaching methods. Different modules and platforms are complementary and interrelated, and now, we are exploring a new model of experimental teaching that is compatible with educational development, as shown in Figure 2.

At present, we focus on the cultivation of new compound talents and choose a teaching method that combines industry-university practice, basic experiments, innovative practice classes, professional skills training, and scientific and technological innovation training, which can well reflect the use of information countermeasure technology from the perspective of neural vision.

3. Overview of the Neural Network Prediction Method

So far, many types of artificial neural networks have appeared, mainly including feedback networks, radial basis function neural networks, linear neural networks, self-organizing neural networks, and backpropagation neural networks [4]. Radial basis function neural network and backpropagation neural network have very high application values relative to nonlinear fitting and have good performance [5]. The radial basis function neural network can dynamically determine the number of neurons in the hidden layer during the network training process. In this network, the weight of the hidden layer and the input layer is 1, which is mainly used for signal transmission. Because the tasks of the hidden layer and the output layer are inconsistent, there are also differences in the formulation of learning strategies. Apply a linear optimization strategy to optimize the linear weights of the output layer, and apply a nonlinear optimization strategy to optimize the activation function, which can obtain the required parameters.

3.1. Structural Diagram of Radial Basis Function Neural Network. In this study, a radial basis function neural network is initially established. The network consists of three layers. The first layer, the second layer, and the third layer are the input layer, the hidden layer, and the output layer, respectively. The network structure is shown in Figure 3.

Past researchers have concluded that radial basis function neural networks have more significant advantages in terms of function fit and network prediction performance when compared with other neural networks, and radial basis function neural networks are able to break the inherent properties of the network and can solve the problem of getting into local minima, which has an important role in network optimization [6]. Information adversarial techniques based on neural networks can adapt better with new data, and the training process can determine the number of hidden layer sections accurately, which in turn can have to solve the problems that arise in the process of education and teaching in an optimal way [7].
3.2. Basic Framework of the Neural Network Prediction Method Model. The forecasting model in education often involves four aspects: forecasting method, forecasting content, forecasting purpose, and forecasting result. The basic framework is shown in Figure 4.

Prediction purpose: it can realize reasonable planning of learning paths, can solve students’ emotional problems in time, can reduce students’ dropout rate, and can improve learning efficiency.

Prediction content: it includes emotional attitude, academic performance, school behavior, employment situation, and learning path.

Employment forecasting: (1) Data collection: data collection techniques to clearly collect data. (2) Data analysis: clarity on data analysis techniques and clarity on analysis technique algorithms.

Prediction results: analysis and presentation of results

This study, through the prediction model, concludes that the first choice should be determined for the purpose of prediction and in addition should be determined for the prediction content results and content, presenting the required results, which contain the multifaceted collection of data and techniques involved.
3.3. Prediction Model Establishment Method. The preprocessing model established in this study requires preprocessing data, which is able to address the inadequacy and diversity of the data set, so it will reduce the difficulty of data prediction and processing and can be widely used in practical education. In addition, all the data in this study were obtained by referring to relevant information on the Internet, and SPSS22.0 statistical software was used to count all the data collected in this study. \( P < 0.05 \) indicated that there were significant differences in the statistical results. In this study, GraphPad Prism8 software was used for graphing.

3.3.1. Model Application Areas. Through much analysis of the application value and characteristics of prediction models in the field of education, it is concluded that the scope of application of prediction models is narrow, and the educational environment and educational system also affect the development of educational work, and the established prediction models cannot carry out the full range of prediction, which will increase the difficulty of model migration [8]. Therefore, a good treatment countermeasure should be established for the above problems, and this study has an important role in the continuous optimization of the neural network prediction method under the neural network perspective, which is important for both learning accuracy and efficiency improvement. The model can effectively predict numerical data in education and is conducive to establishing good educational goals by analyzing the predicted items and mining the relationships between items [9].

3.3.2. Scope of Application and Population of the Model. Each prediction model has its own fixed scope of application, and the analysis of learning prediction models shows that each prediction model usually achieves only one purpose. The neural network prediction model established in this study is capable of achieving multiple predictions for certain conditions, and the neural network model established in the neural network horizon has been widely used in dropout rates, academics, learning outcomes, and employment prediction methods, which have a particularly important impact on the development of education and teaching [10]. In addition, prediction contains nontime series, time series data, nontime series is training data, and prediction data do not exist in time order, in terms of time, expressed as the same time different attributes corresponding values [11]. Time series is training data, and prediction data in terms of time exist in a fixed order. The model developed in this study is able to solve the time series and nontime series prediction problems effectively, so the model is said to have high performance [12–15].

3.4. Model Characteristics. In order to improve the accuracy and applicability of the model prediction based on the neural network view threshold and facilitate its application in the education sector, then it is necessary to analyze the prediction model characteristics, and the following are the main characteristics of the model: (1) numerical type data can be applied for analysis. Based on the variability of measurement scales, the data in the education sector can be divided into three types, including numerical data, categorical data, and sequential data [16]. The model based on the neural network horizon is able to predict problems in education in the
pattern of numerical type data or can be transformed into numerical type data [17]. (2) There is no need to establish practically meaningful relationships between individual items. In the process of model prediction, there may be some connection between the predicted outcome and the predicted purpose, but since both the predicted outcome and the purpose are indicators of the predicted learning status of students, it is not possible to determine the relationship between them diagnostically [18]. Therefore, it is necessary to build a prediction model for the neural network horizon and analyze the actual relationship between the prediction outcome, purpose, and the various stages of prediction [19, 20]. (3) If there are difficulties in the process of predicting the collection of items by educators, this aspect can be solved when entering the prediction model [21]. Since the educational system and educational environment are subject to change and have differential characteristics, the creation of predictive models is the key to solving this aspect of the problem [22]. In this study, the model under the threshold of neural network vision is used in the actual prediction operation to be able to screen items with high relevance, which can be achieved in the evaluation of educational development [23].

4. Predictive Effect of the Neural Model and Information Confrontation Technology on Educational Development Based on Neural Network

4.1. Neural Network Algorithm Can Determine the Effect of Different Parameters on Student Learning. In this study, the neural model based on the neural network view threshold is established, and the data are selected on the basis of the trust and support values obtained by the association rules, through which the improvement of the prediction model can be achieved [24]. The neural network algorithm can determine the effect of different parameters on student learning, as shown in Figures 5 and 6.

The above case illustrates that the analysis of students’ recent learning can be carried out through neural network algorithms, which can evaluate the role of educational development promotion, can provide a good basis for the adjustment of educational measures, and can increase the differentiation of differences between values if needed.

Figure 5 can visually show the proportion of each item, among which the proportion of professional course platform elective, public education platform compulsory, and teaching staff is high. In order to enrich the thing dataset, the differentiation between the values can be increased, when the numerical type data carving is transformed into the thing dataset.

4.2. The Prediction Effect of Different Prediction Models on Educational Development. In order to evaluate the current educational development model to promote the role of this study, the neural network prediction model and other models in the field of similar prediction for comparative analysis mainly contain the prediction content, prediction data source, prediction algorithm, prediction results, prediction accuracy, and other aspects, as shown in Table 1.
From Table 1, we can conclude that the prediction model can realize the prediction of learning effect and academic performance. The information model based on the neural network can optimize the selection of neuron data center. Compared with other prediction models, it has higher prediction accuracy, and there are certain differences in prediction content, prediction data source, prediction algorithm, result analysis, and other aspects. Compared with other centralized models, the information model based on the neural network is more comprehensive in the analysis of results, which is one of the reasons for improving the prediction accuracy.

### 5. Conclusion

In order to analyze the validity of the model, the practical application steps and methods of the model should be explored in detail, and the considerations in the practical application need to be summarized and analyzed. In this study, the neural network-based model is used in education prediction, and the associated items can be mined. This study introduces information confrontation technology based on the establishment of the neural network-based model, which is able to develop a good educational program based on its own research characteristics and situation and at the same time can predict all aspects of factors affecting students’ learning, which has very important practical value and significance. However, information adversarial technology from the perspective of the neural network is a new technology, so it needs to be applied more effectively and used in many other fields [25].

### Data Availability

The dataset used in this paper is available from the corresponding author upon request.

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**Disclosure**

YiLin Shao and HanNing Lu are the co-first authors.

**Conflicts of Interest**

The authors declare that they have no conflicts of interest regarding this work.

**Authors’ Contributions**

YiLin Shao and HanNing Lu contributed equally.

**References**


