Online Video Super-Resolution Optimization of English Ecological Teaching Based on Information Display Cloud Platform

Wu Bin[1,2]
[1.]Lyceum of the Philippines University, Philippines
[2.]School of Foreign Languages, Yancheng Institute of Technology, Yancheng, 224051, Jiangsu, China

Abstract:This information platform has a reasonable layout and good user experience. In order to solve the different division of labor among departments at all levels, a concise data table of authority allocation has been developed, so that users can more intuitively see the statistical functions of the information platform. The column chart relies on the data mining technology of artificial intelligence to analyze the characteristics of learners, and uses technical means to design smart classrooms, promote language learners' autonomous learning, and establish dynamic and complete learner files, so that the language learning process is no longer a linear process. On the basis of convex set optimization, an efficient and robust video sequence resolution enhancement algorithm is proposed by making full use of maximum posterior probability and convex feature projection technology.

Keywords: Online Video Super-Resolution, English Ecological Teaching, Information Display Cloud Platform

1. INTRODUCTION

In recent years, major breakthroughs have been made in artificial intelligence technology. After the Internet and the Internet of Things, big data, cloud computing, speech recognition, [1] and deep learning have become new hotspots. Driven by relevant information and communication technologies, artificial intelligence uses new algorithms and educational ecology to study various educational phenomena and their causes based on ecological principles, especially the principles and mechanisms of ecosystems, ecological balance, and co-evolution [2]. An interdisciplinary subject that grasps the law of educational development and explains the trend and direction of educational development.

The college ecological English classroom regards teachers, students, and the educational ecological environment as an interrelated and interactive educational ecosystem [3]. Compared with the traditional classroom, its most notable feature is that its teaching is based on the basic principles of education ecology, and education informatization plays a prominent role in promoting the innovation of teaching methods and the reform of teaching process [4]. Through the use of information technology, teaching resources have been optimized and integrated, especially today when information technology is widely used in all walks of life [5].

Cloud service is the increase, use and interaction mode of Internet-based related services, usually involving the provision of dynamic, scalable, and often virtualized resources through the Internet, and the application layer obtains the required resources and Service, service can be IT products [6]. In the past 10 years, for the writing teaching mode of undergraduate English majors, based on Internet +, corpus, online and offline mixed teaching, flipped classroom, micro-class, online automatic review system and other network platforms and modern information technology. The teaching mode of English writing has received extensive attention [7].

In order to obtain high-definition images, the super-resolution (SR) algorithm was first proposed in the literature [8], which uses signal processing technology to obtain a high-resolution (HR) image from multiple low-resolution (LR) images. Since then, the resolution enhancement method has become a research hotspot in image processing and video communication [9]. The author uses the spatiotemporal features between video frames to optimize the fast-learning reconstruction algorithm based on deep convolutional neural network and proposes a VSR reconstruction algorithm based on spatiotemporal features and neural network [10].

Improve the level of urban comprehensive management, further increase, and improve the functions required for grid-based and information-based social management in the new era, realize a people's livelihood service system based on people's livelihood security [11], a stability maintenance prevention and control system with early warning and prevention as the first step, and achieve efficient A comprehensive command system that requires smoothness. Improving the resolution of images through signal processing technology is the worthiest of in-depth research and discussion. In this method, signal processing can be performed on multiple low-resolution images observed. Get high-resolution images [12].

This resolution enhancement technology. At the Boa Forum for Asia in April 2018, the speech of the guests was instantly converted into text and translated into English in real time on the big screen [13]. This is after AlphaGo, artificial intelligence has once again attracted widespread attention from the global public. The educational ecosystem refers to the mutual influence, interaction, harmonious symbiosis, dynamic balance, and impact on the external environment formed by various elements in accordance with certain laws, interaction and dependence, energy conversion, material circulation and information transmission through regular movement. A unity that adjusts accordingly [14].

Emphasize the role of students' main body in practice, and build a harmonious, free, fair, united, cooperative, and mutual learning atmosphere for college students, so as to achieve the purpose of improving classroom teaching efficiency and enhancing teaching effects [15]. English teachers in higher vocational colleges should adapt to the trend of the times, think deeply about ecological factors such as teachers, students, and teaching environment, and think about how to

establish an information-based English classroom, so that each "ecological factor" can form an interdependent and interconnected ecosystem [16].

Establish a cloud environment including data, computing, storage, network, service, software, security system, etc. Tobacco commercial applications in various cities no longer need to deploy the underlying physical environment, data environment and security environment [17], through front-end development and cloud platform The common interface can realize the relevant application and service requirements. Therefore, it is an urgent task for college English writing teaching to explore the integration of network platforms and modern information technology with English writing teaching, to create a sustainable writing teaching mode suitable for Chinese English learners, and to truly improve college students' English writing ability [18].

2. THE PROPOSED METHODOLOGY

2.1 The Information Display Cloud Platform

Based on the theory of education ecology and combining the characteristics of business English teaching, the author tries to construct a holistic, dynamic, harmonious, and balanced business English ecological teaching mode, in order to help improve the quality of business English talent training and the innovation of business English teaching mode. With the application of information technology, the concept of higher vocational English teaching is also in a state of rapid development.

Novel and advanced teaching methods are widely used in practical teaching. Although the industry is gradually unifying the core business process informatization work platform, there are still many self-built systems developed by municipal-level tobacco industrial and commercial enterprises based on their actual needs. These independent information systems cost a huge amount of money. On the one hand, a set of basic environments is configured according to a set of systems. Association mapping learning is to learn the association relationship between high- and low-resolution image blocks, which is used to achieve the goal of super-resolution image blocks. The deep convolutional neural network is used to learn this relationship, which makes full use of the superior fitting performance of the deep convolutional neural network for nonlinear relationships. Through the demand analysis of this platform system,

The function of the platform system has been basically determined. Based on the data flow of the JAVA platform, the data flow is drawn into a data flow diagram. The purpose of the data processing process and data flow is to solve and discover the problems that occur in the operation of this data in the system. In the research of super-resolution reconstruction technology of video image sequence, this paper studied the existing algorithms, and found that most of the existing video super-resolution reconstruction methods are based on motion estimation super-resolution reconstruction technology. Understand the advantages of intelligent algorithms in the optimization process.

2.2 The English Ecological Teaching

The educational ecosystem refers to the mutual influence, interaction, harmonious symbiosis, dynamic balance, and impact on the external environment formed by various elements in accordance with certain laws, interaction and dependence, energy conversion, material circulation and information transmission through regular movement. A unity

that adjusts accordingly. College English, as a basic course for undergraduate language learning, is a quality education course that leads students to experience the world's advanced culture and cultivates international awareness. It plays a vital role in the future development of Chinese college students.

Therefore, the content of education should be continuously enriched and improved in college English classrooms, and mobile learning should be integrated to improve the comprehensive application ability of college students in English. Think about the difference between traditional teaching methods and information-based ecological classroom teaching mode through open classes and discuss the learning effect by analyzing students' learning situation. Decentralized development and construction inevitably enhance the intersection between all levels of the industry, development, and suppliers, and increases the risk of engineering, material, and service procurement projects. It is difficult for the supervision and discipline inspection force to carry out the detailed inspection of many informatization projects from evaluation, project establishment, implementation, acceptance, application, etc., and it is easy to breed corruption.

A total of 90 students from the 2019 English-major undergraduate teaching class of Qingdao Binhai College were selected as the research objects to carry out research on the construction of an English ecological teaching model with a total of 16 weeks and 64 hours in one semester. Among them, two tasks are completed in the first and second weeks. Teachers and students have their own characteristics and personalities. Different from traditional classrooms, the evaluation standards and methods become more diverse. This requires teachers to respect the differences of students and build a harmonious and equal teacher. In the college English ecological classroom, a more complete, objective, and scientific student's learning situation, grades and learning situation in the classroom, in the classroom and outside the classroom can be obtained through the mobile learning platform. This not only breaks the barriers of traditional single evaluation, but also effectively solves the problem of missing data in college English evaluation.

2.3 The Online Video Super-Resolution Optimization for English Ecological Teaching

Only an open ecosystem can realize free energy conversion, material circulation and information transfer between internal elements and the external environment. Therefore, under the business English ecological teaching mode, the teaching objectives will be adjusted in time according to the changes in social needs. The construction of a multi-dimensional interactive English teaching environment is an important starting point for the construction of an information-based higher vocational English classroom ecological teaching. The ecological classroom teaching view holds that the interaction between teachers, learners and teaching environment is the main process of foreign language learning.

In the learning process, although the neural network with more network layers and smaller convolution kernels helps to obtain better learning effects [7], in order to better balance the cost of time and efficiency, the author uses three layers. The convolutional neural network learns the association mapping between high- and low-resolution image patches. The low frequency information is contained in the approximate component. Therefore, the algorithm does not perform the convex set projection operation in the image space domain but

uses the information in the adjacent frames to update and increase the high-frequency wavelet coefficients of the current frame in the wavelet domain to achieve the purpose of super-resolution reconstruction. Optimization refers to finding a set of parameter values under certain constraints, so that some performance indicators of the system can be maximized or minimized. Optimization technology has played a huge economic benefit in industry and people's daily life [43, 44]. Post it to the WeChat group for students to learn and think about. At the same time, the teacher uploads a video about the investigation status of college students using mobile phones in different colleges and universities in the WeChat group or makes a micro-lecture video in advance. In order to more accurately describe the relationship between the sets of similar graphics blocks to be fused by matching, balance the extracted spatiotemporal features, the geometric mean is used to calculate the fusion weight of the image block to be fused.

3. CONCLUSIONS

In this paper, an improved video sequence super-resolution reconstruction algorithm is proposed. The algorithm uses a combination of a simple spatial domain preprocessing gradient estimator and wavelet domain inter- and intra-frame POCS reconstruction. The theory of educational ecology allows people to re-examine the teaching relationship, discover the beauty of life personality, respect the diversity of life, and pay attention to the all-round development of students; analyze the various ecological factors in the classroom teaching ecosystem from an overall dynamic perspective. The purpose of fast super-resolution video frame is realized. In order to further utilize the spatiotemporal relationship between frames to optimize the reconstruction results, the author adopts spatiotemporal feature similarity and structural similarity to describe the complementary redundant relationship between video frames.

4. REFERENCES

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