International Journal of Science and Engineering Applications
Volume 12-Issue 08, 58 – 60, 2023, ISSN:- 2319 - 7560
DOI: 10.7753/IJSEA1208.1019

Java Implementation of Intelligent Platform of Computer Distance Education Based on Real-time Information Interaction Algorithm

Huang Qinghua
Qingyuan Polytechnic
Qingyuan City, Guangdong Province, 511510, China

Abstract:An interactive two-level fusion algorithm based on evidence theory is proposed. The data from different information sources obtained by the data fusion system are classified in detail, and the different roles of non-real-time information and semi-real-time information in the early and middle stages of data fusion are clarified. This paper designs and implements a value-added platform based on Java language, using SSM framework, AngluarJS framework and Shrio security framework. Analyze the teaching organization form, teaching evaluation method, teaching management mode and other elements of the blended teaching model, emphasize the learner-centered constructivist education concept, rely on the smart online teaching platform to collect teaching process data, and provide the basis for teaching assessment and teaching improvement . While reducing the use cost of the resource sharing platform, it can eliminate resource heterogeneity and provide services on demand, providing a reference for further optimizing the distance education resource sharing system.

Keywords: Java Implementation, Computer Distance Education, Real-time Information Interaction Algorithm

1. INTRODUCTION

The identification of air targets and their accompanying decoys in the state of point targets is a difficult and necessary problem to be solved in combat systems [1]. At present, with the application of stealth technology, electromagnetic interference, decoy and other means, it becomes more and more difficult to distinguish between target and target, target and decoy [2].

In terms of lending, the third-party payment company eliminates the cumbersome procedures for customers, so the huge user base also pushes the development of the third-party payment company to a new height, and the third-party payment company will also develop its own agents [3]. The workload of the multi-model algorithm is one of the superior methods in the current maneuvering target tracking algorithm. The main idea is to design a series of models to represent all possible behaviors of the system. Based on the parallel work of the filters of each model, the overall estimation of the system is a data fusion of the estimates made by the filters of each model. With the development of science and technology, human-computer interaction has a wide range of application prospects in all walks of life [4].

With the development of human-computer interaction, intelligence has become the main development direction of human-computer interaction systems. Compared with traditional human-computer interaction methods [5], such as keyboard input and mouse input, the new human-computer interaction method can bring greater convenience to users. If there are new requirements, it is necessary to re-research and design [6]. The number of systems continues to increase, and the management of these platforms becomes more and more complicated, which affects the management quality of the entire smart campus. Therefore, it is necessary to design a management platform that integrates multiple functions [7].

On February 5, 2020, in response to the adverse impact of the novel coronavirus-infected pneumonia epidemic on the normal school opening and classroom teaching of colleges and universities, colleges and universities across the country rely on various online teaching platforms to carry out online teaching activities [8]. In the first stage, the audio of educational programs is disseminated through radio communication, and the learning resources are directly disseminated to the target audience at the highest level [9]. The communication method is single, and the learning effect is not significantly improved due to the inability to carry out effective interaction; in the second stage, education is carried out through TV and video programs. Communication; programming is the core skill of computer majors and has strong engineering practice [10].

This paper analyzes the characteristics of engineering distance education teaching, starts from three dimensions of intelligent identity authentication, teaching resource reconstruction and evaluation system construction, explores the construction and application of intelligent programming experimental training platform, and innovates distance education teaching service mode [11]. Therefore, improving the recognition rate of the target plays a pivotal role in improving the combat effectiveness and survivability of modern fighters, as well as the final decision on the battlefield situation and threat level [12].

On the basis of multi-sensor target recognition, this paper discusses the interactive target recognition algorithm based on evidence theory. This paper designs a value-added platform based on Java [13]. As an agent and channel management system, the value-added platform can better manage the third-party payment companies, upper-level channels and lower-level agents, agents and agents, and channels and agents. relation. In the field of maneuvering target tracking, suboptimal multi-model algorithms based on Markov linear systems have received extensive attention, such as interactive multi-model (IMM) algorithms, generalized pseudo-Bayesian (GPB) algorithms, and so on [14].

However, the model transition probability in these multi-model algorithms is completely determined by human a priori,

and does not use the information measured at the current moment, such as image input, voice input [15]. Simply put, image input is an input method based on digital image processing technology. The image and video are processed through camera acquisition and computer processing to shield noise, extract useful information, and then complete corresponding operation instructions [16].

The establishment of the smart campus management platform can integrate and manage a variety of campus service systems, and allow school staff and students to download a software to operate all functions of the smart campus, improve the user experience of the smart campus, and integrate admin users only need to remember a password and account to log in [17].

2. THE PROPOSED METHODOLOGY

2.1 The Real-time Information Interaction Algorithm

For the discriminative fusion of targets, it can be carried out in three ways: sensor level (data level), target state and characteristic level (feature level), and identity discrimination level (decision level). Among them, the sensor-level fusion system retains as much on-site data as possible and provides subtle information that other fusion systems cannot provide. The functions of this system are divided into system management, log management, channel management, agent management, rule management, and transaction user management. Agent URL management, reconciliation management, report management, notification management ten modules. . Since the current mode information of the system is implicit in the current measurement, the current measurement information should be fully utilized to derive the parameters (model transition probability) of the multi-model filtering online.

Here, an online estimation formula of model transition probability based on posterior probability is given, and a parameter adaptive interactive multiple model (PAIMM) algorithm is proposed combined with the IMM algorithm. The block diagram of the human-computer interaction algorithm based on hand motion proposed in this paper is shown in Figure 1. In the initial video acquisition module, the video is collected through the camera, and the collected video stream is subjected to front-end processing such as Gaussian filtering and morphological filtering to filter out noise, so as to extract and detect the operator's hand movements.

Feature-level fusion belongs to the intermediate level, extracting feature information, and then classifying, synthesizing and analyzing multi-sensor data according to the feature information. Mainly include target status data fusion and target feature fusion, which realizes considerable information compression, notification information (ID number, title, notification type, level, content, attachment file path, is the designated agent, status flag, valid flag, creation time, deactivation time, publisher); the standard deviation of measurement noise is r=100m, and the maneuver frequency of all models in the current statistical model is taken as 0.06.

100 times of MomeCarlo simulations were carried out, and the tracking performance results of the two algorithms were obtained. In the hand motion analysis module, the position of the hand motion in the image was identified by centroid extraction and motion feature point location, and the motion trajectory and direction, so as to translate the real intention of the operator, and control the remote control car in the human-computer interaction module. The fusion process of this system adopts a hybrid two-level fusion: the first step, each recognition unit performs time domain fusion on the obtained target data. On this basis, according to the speed, size, state, height, shape, etc. of the target, the target recognition knowledge base that comes with the system is used to make preliminary probability judgment on different targets.

2.2 The Smart Campus Security System

The establishment of the smart campus management platform can integrate and manage a variety of campus service systems, and allow school staff and students to download a software to operate all functions of the smart campus, improve the user experience of the smart campus, and integrate Management users only need to remember a password and account number to log in. Submit learning tasks in various forms such as video, online answering questions, and complete classroom assessments. During the epidemic, teachers produced a large number of online teaching resources while completing their own teaching tasks, which greatly broadened the coverage of online teaching courses than in the past.

The sharing platform needs to meet various needs including resource services and user communication, and needs to contain abundant storage resources and complete functions, which can effectively solve the problems of duplication of online teaching resources and difficulty in finding them, so as to make teaching resources better For sharing, the platform needs to meet the following requirements. Highlight practicality and focus on skill improvement. Engineering distance education is different from conventional distance education. The practical environment is of great significance for cooperating with theoretical learning and improving professional quality and professional skills. All learners are for the core goal of enhancing job competitiveness.

2.3 The Java Implementation of Intelligent Platform of Computer Distance Education

The automatic assignment function is to assign URL addresses to agents who have assigned channels and have not assigned card type links according to the link mode entered when adding channels. The link modes include: single link mode, multi-link mode, card type link mode 1, card type link mode Mode 2 and Interface Mode. That is, the switching between modes does not require time, and the inertia of the filter system makes the tracking algorithm have a certain delay in identifying the actual system motion mode switching, which reduces the output accuracy of the algorithm during the delay period.

In actual operation, the background will be more or less disturbed due to the different environment of the operator. In order to extract a clear image from a complex background, it is necessary to consider whether the background is affected by light factors during acquisition. factors such as whether the person moves. Therefore, in order to extract a relatively stable and clear image, this algorithm uses the 26th frame image as the background image after the video starts to be collected.

There are many types of current smart campus management systems, and each system will generate a large amount of data information when it is running. These data information are stored in their own databases. There is no confidence exchange between databases and databases, and this storage method will It leads to the waste of construction funds. The talent training model [3] refers to a purposeful, systematic and open system composed of several elements, which is designed under the guidance of a certain training system and a certain educational concept in order to achieve a specific talent training goal. Sexuality and intermediary. Analyze the current

teaching resource sharing status, the technologies and standards used, find out the teaching resource information that meets the requirements of the standard, and convert the teaching resource information that does not meet the requirements.

3. CONCLUSIONS

This paper deduces the online estimation formula of real-time information interaction, and combines the above results with IMM to obtain a parameter-adaptive IMM (PAIMM) algorithm. By creating a campus WeChat enterprise account and a variety of management methods of a unified management platform, school staff and students can build a smart campus through mobile terminals, and can also promote the school to non-school users. Distance education needs to be based on rich the ever-increasing types and numbers of educational resources and the diverse learning needs of users have put forward higher requirements for the co-construction and sharing of distance education resources. The level of sharing of teaching resources in the existing distance education system still needs to be Further improve.

4. ACKNOWLEDGEMENT

Subject: 2018 Guangdong Open Distance Education Research Fund Project: Internet plus background of distance education and occupation education integration path YJ1817

5. REFERENCES

[1]Hu Jiangsheng. Design and implementation of smart agricultural software platform based on Java EE [D]. Harbin Institute of Technology.

[2] Huang Jianrong. Design and Implementation of Intelligent Student Management Evaluation Information System Based on ANN Algorithm [J]. Computer CD-ROM Software and Application, 2012(10):2.

[3] Wu Gui, Tao Jun. 3D Visualization Algorithm and Implementation in Computer Graphics Classroom Teaching Based on VRML and JAVA [J]. Journal of Hubei Institute of Adult Education, 2011, 17(5):4.

[4] Liu Jianming. JAVA Implementation of Remote Control Password Authentication System Based on DES Algorithm [J]. Microcomputer Information, 2004, 20(1):2.

[5] Wang Wei. Design of home-school cloud service platform based on intelligent terminal [D]. Harbin Engineering University, 2017.

[6] Liu Jing. JAVA Implementation of Email Encryption Program Based on RSA Public Key Encryption Algorithm [C]// Network Business and E-Commerce Ecology Symposium. China Information Economics Association, 2010.

[7] Huang Cheng. Analysis and Design of Distance Education Examination System Based on J2EE [D]. University of Electronic Science and Technology of China.

[8] Bai Yongxiang, He Lin, Chen Yihuai. Design and Implementation of RSA Cryptographic Algorithm Based on Python [J]. Electronic Design Engineering, 2021, 029(016):120-125,130.

[9] Lu Fangrui. Research and implementation of computer room teaching management system based on UDP broadcast [J]. Software, 2022.

[10] Cao Aiwu, Rong Jifeng. Analysis of JAVA programming language based on computer software development [J]. China Electronic Commerce, 2013.

[11] Liu Jianming. JAVA implementation of remote control password authentication system based on DES algorithm [J]. Microcomputer Information: Automation of Measurement and Control Instruments, 2004.

[12] Li Fang. Research and Implementation of Student Management System Based on Java EE Technology [D]. Hunan University, 2019.

[13] Zhang Xinming, Wen Shaochen, Liu Shangwang. Heap Optimization Algorithm for Differential Perturbation [J]. Computer Applications, 2022, 42(8):2519-2527.

[14] Zhu Ji. Performance Analysis and Parallel Implementation of MOTIF Recognition Software [J]. Computer Network Information Center, Chinese Academy of Sciences: Before 2012, 2006.

[15] Wang Zhixiao. An algorithm solution development method, equipment and computer-readable storage medium:.

[16] Liang Jinke. Design and implementation of a Web-based intelligent tumor molecular diagnosis information platform [D]. Hangzhou Dianzi University.

[17] Hou Dongxiu. Design and implementation of personalized learning platform based on Web log mining [D]. Shandong Normal University.