Operation Research and Decision Making

Fuzzy comprehensive evaluation over the differences and similarities of financial and accounting functions in enterprises

Cai Lu, Yu Xiangyun

Computer Modelling & New Technologies 2013 **17***(5C) 9-13*

As for this issue, the thesis firstly analyzes the specific functions of the finance and accounting in enterprises and certifies the differences. Later, Analytic Hierarchy Process (AHP) is adopted to establish the multilevel fuzzy comprehensive evaluation model respectively for corporate financial performance and the accounting information quality. Besides, the main evaluation criteria of an enterprise's financial and accounting functions and the main factors affecting the functions of the evaluation are analyzed to explore specific measures for improve corporate financial and accounting department. It can be concluded that the exercise of the financial functions need to rely on the profitability and the development capacity of the enterprises and specifically speaking, the utilization of factors of production and the quality of the portfolio operating should be placed under well control. The key evaluation criterion of the accounting function is the quality of accounting information, which will exert a positive impact on long-term business decisions. The fuzzy comprehensive evaluation studied in this thesis does not include all the evaluation indicators. And in the practices of corporate development, new evaluation indicators should be explored continuously to improve the evaluation system. Therefore, the financial and accounting functions can be better understood and applied.

Keywords: enterprise, financial function, accounting function, differences and similarities, fuzzy comprehensive evaluation

The application of computer aided design in art and design

Deng Yafei

Computer Modelling & New Technologies 2013 **17***(5C) 14-18*

The modern art design is the product of the combination of science technology and art, and it is a comprehensive discipline with all kinds of scientific cultural knowledge and art discipline combined closely, also the integration of science technology and art. Using the modern diversified thinking mode to study the application of computer aided art design in the field of art and design. Compared with the traditional methods of art design, computer aided art design has a lot of incomparable superiorities than traditional design methods of artificial, due to the improvement of design software which greatly improves the efficiency and accuracy of the drawing process. All stages of design can use computer software to complete; simple use computer knowledge to design software to complete the art design will come true. With the rapid development of computer technology, the 21st century has entered the era of electronic information, computer technology is widely used in various industries, and computer also played an irreplaceable role in the aspect of art and design. Computer aided design provides art designers an unprecedented form of expression of art. Compared with the traditional single set of art, the expression means of computer aided art design is faster, the performance of content present diversity, which is d

Keywords: data ware house, design process, performance, benchmark

Research on university library information level measurement based on genetic algorithms and neural networks

You Sheng

Computer Modelling & New Technologies 2013 **17***(5C) 19-22*

Setups a comprehensive indexes system for the evaluation of academic library digitalizing level, presents a new evaluation model for academic library digitalizing level by combining genetic algorithm and BP neural network. Experimental results demonstrate the developed model is valid and practical. The model can give a scientific theoretic guidance for the evaluation of academic library digitalizing level. On the basis of the establishment of the University library digitalizing level evaluation index system based on the proposed neural network based on genetic algorithm Mechanism, and thus give a new university library information level evaluation methods. Measured results show that the evaluation model Effectiveness and practicality of the University Library Information Evaluation provides a more scientific theory.

Keywords: university library, information technology, genetic algorithm, neural network

Explore application of hierarchical approach in College physics experiment teaching

Hongzhi Zhao

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College physics experiment teaching is different from the general theoretical knowledge teaching, which emphasizes students' practical ability and logical thinking ability in experimental design. The traditional teaching approach still has shortcomings in the cultivation of students' interest in experiment, and meanwhile, it is not conductive for the improvement of students' learning interest in experimental course. The hierarchical teaching approach proposed achieves the division of teaching contents according to certain layers, so it can be used to implement teaching in different stages according to students' acceptance of knowledge complexity. Compared with traditional teaching mode, hierarchical teaching enhances students' ability to understand knowledge

and enables them to accept the knowledge implanted by teachers and to study in a progressive and gradual manner according to knowledge mastered. By applying the hierarchical approach in experimental teaching, teachers not only achieve the continuity and consolidation of theoretical knowledge, but also largely enhance the scientific literacy of college students.

Keywords: hierarchical teaching, college physics, experiment teaching, application

The characteristics of immaterial society and its influence on the development of art design
Zhou Qian

*Computer Modelling & New Technologies 2013 **17**(5C) 27-29*

The immaterial society is often described as the combination of the digital society, the information society and the service society. In the immaterial society, the way of individuals accepting information, cultural values makes a huge difference. At the same time, the art design also changes in the areas of content, production and transmission, and the final result will be different from the past.

Keywords: immaterial society, art design; influence

Integrating intangible cultural heritage with instructional methodologies at vocational educational institutions - an exploration of instructions on the case of Kaifeng city and nearby
Zhou Qian

*Computer Modelling & New Technologies 2013 **17**(5C) 30-33*

This paper studies intangible cultural heritage of Kaifeng City and its surrounding area by reviewing current development status of Art Design major offered by local vocational educational institutions. This paper proposes that introducing intangible cultural heritage resources into the educational system of Art Design in local institutions of vocational education in order to achieve complementary advantages and win-win results. The main contribution of this paper is systemically reviewing theoretical framework of educational practices by integrating intangible cultural heritage with Art Design teaching.

Keywords: intangible cultural heritage, art design major in institutions of vocational education, teaching method

A Novel prediction model for champions' scores of men's 110 - meter hurdle in Olympic Games
Li Xiaoxin

*Computer Modelling & New Technologies 2013 **17**(5C) 34-37*

In order to improve the prediction accuracy of the grey model for champions' scores of men's 110-meter hurdle in Olympic Games, a nonlinear grey Bernoulli model (NGBM) has been built on the base of the GM(1, 1) model, and a genetic algorithm (GA) has been adopted to optimize the parameters of the model. Based on the statistics of champions' scores of men's 110-meter hurdle in Olympic Games during the 1948 - 2012 period, the NGBMGA model is employed to predict the performance of the 2016 and 2020 Olympic Games which is contrasted against the prediction result of the GM (1, 1) model. The results show that the NGBMGA model has higher prediction accuracy, with its feasibility and veracity verified.

Keywords: GM(1,1) model, nonlinear grey Bernoulli model, predictive analysis, 110-meter hurdle

The comparison of the undergraduates' learning values on the basis of different educational systems
Li Jiangfeng

*Computer Modelling & New Technologies 2013 **17**(5C) 38-43*

The "Learning theory" of General Secretary Xi Jinping has pointed out the way for us to encourage the undergraduates to learn and establish right learning view under the new situation. Compare and analyze the undergraduates' learning values on the basis of different educational systems through questionnaire, to provide reference data for these universities to be qualified and put forward some considerations and suggestions on how to cultivate undergraduates to set up correct learning values.

Keywords: newly-upgraded undergraduate universities, different educational systems, learning values

The model research of the teachers' knowledge management support system based on Web
Chen Hua

*Computer Modelling & New Technologies 2013 **17**(5C) 44-46*

In the paper, we mainly introduce the characteristic of the teacher's personal knowledge management. Then, web technology is simply introduced. In the last, we make the function design of the teacher's personal knowledge management system based on web. And we give a part of modules function design.

Keywords: teacher's personal knowledge, management, Web

Study on English MOOC online learning monitor system and model
Chen Hongte, Zhang Li

*Computer Modelling & New Technologies 2013 **17**(5C) 47-51*

Through assessing over a hundred known recent literature contributions on MOOC and ODL, we get some basic conclusions on

MOOC: firstly, conflicting perspectives on MOOC divide education communities; secondly, formal comprehensive analyses of MOOC mostly concur that they are disruptive and possibly threatening to current higher education models, thirdly, reporting of MOOC learner experiences is positive. Based on a large number of documents and tracking projects, we find the result that a solid and effective research must be on the basis of knowing many of the requirements of object and explore specific system function, types of media and the study and practice aiming at certain groups. Therefore, we can only do system research by the way of combining theoretical and empirical. In the meantime, we can find the system model supporting theory from advanced learning theory. It is worth learning the excellent reference model of digital learning system that it can ascend the quality of mobile learning system model.

Keywords: MOOC, ODL, certification, monitor system, business model

Study on arts online education of knowledge comprehensive evaluation model based on BPNN

Han Yuting

*Computer Modelling & New Technologies 2013 **17**(5C) 52-56*

Connecting with the actual factures of our college and the demands for teaching quality, this topic introduces the artificial neural net theory into the assessment of teaching quality in colleges, establishing relative math model, integrating the complex index and giving measurement in order to provide more accurate and scientific assessment methods for teaching quality assessment. Through MATLAB software programmer, shaping BP neural net model and reaching reason results.

Keywords: BP network, arts education, online teaching, comprehensive evaluation, knowledge

Study on tourism crisis alarming model based on data mining

Dong Zhenhui, Liu Fang

*Computer Modelling & New Technologies 2013 **17**(5C) 57-61*

The article systematically analyzed the actuality and modality of Chinese listed corporations' tourism crisis, and discussed the reason of this problem appeared and the method how to resolve. The necessities of establish forewarning model in forecasting and avoiding tourism crisis were clarified; Tourism crisis forewarning models in existence were reviewed; several forewarning models using Enterprise Miner module in SAS were established. Compared with the existing models, such as discriminate analysis models, Logistic models and Neural Network models, the models in this article possessed many advantages and could be used more perfectly on forewarning purpose.

Keywords: data mining, tourism crisis, alarming model, monitor system

Research on digital marketing system data model based on cloud computing

Sun Hua

*Computer Modelling & New Technologies 2013 **17**(5C) 62-66*

This paper proposed database marketing systems architecture based the Hadoop cloud computing, in order to achieve massive data processing and digital marketing, with taking the Group database marketing system as an example. In short, we build a cloud-based smart grid architecture of marketing, rely on the existing electricity network, as the theoretical basis for a national smart grid development planning, use cloud computing and the foundation of Hadoop platform technology. The process give full play to the advantages of the cloud computing model, provides open interconnect server and client interaction, system management background, unified and convenient resource allocation. This experiment reflects the true nature of the smart grid marketing system, provides valuable theoretical basis and practical significance for the development of smart grid.

Keywords: digital marketing, cloud computing, data model, data mining, Hadoop

The research of English massive open online course based on virtual technology

Chen Shanshan

*Computer Modelling & New Technologies 2013 **17**(5C) 67-70*

Based on the investigation cases of college students English learning websites in the existing sample, the reason of the English Massive Open Online Course why is unsteady on the virtual platform is analyzed in the paper. And the effective resources management and standardization construction is mainly strengthened from the aspect of the content. Finally, the current adult English teaching mode on the virtual platform is selectively analyzed. Meanwhile, some effective reform and innovation measures are put forward in the last.

Keywords: English massive Open Online Course, unsteady, management, adult English teaching

Investigation and prevention measures of the epidemiology of common sport injury in college physical education

Liu Wei

*Computer Modelling & New Technologies 2013 **17**(5C) 71-73*

Objective: This paper provides relevant suggestions and measures on the basis of understanding of the common types of injury

and their influencing factors among ordinary university students in order to further reduce, and even avoid the occurrence of sports injury so as to improve college students' health conditions as well as secure their lives. Method: A questionnaire survey method is applied here. 150 copies of questionnaires are randomly distributed among Wuhan University students to analyze several aspects, namely, the parts of the college students' sports injury, sports preference, the main causes of damage and damage frequency. Results: The frequency of such sports injury occurred among college students hits 58.3%; the sports injury of boys are more likely to happen than of girls; the most common body parts which are vulnerable to sport injury are ankles, wrists, knuckles, waist and knees in sequence; muscle strain, bruise and ligamentous sprain are main types of injuries by classification of their respective characters; the causes of the college students' sports injury mainly lie in the inadequate preparation; doing exercises too intensely, poor ability of self-protection and poor physical quality. Conclusion: (1) Schools and teachers should attach more importance on the popularization and publicity of scientific knowledge of sports; (2) For the sports enthusiast in college, the awareness of necessity and significance for pre-exercise activity and warm-ups should be increased; (3) Schools should enlarge both investment and facility construction of sport equipment and athlete field to avoid as much as possible the non-human factor of injury in the process of movement.

Keywords: College students, Physical education, Sports injuries, Prevention measures

Research on the construction of teacher knowledge management support system based on WEB
Peng Guangyu
*Computer Modelling & New Technologies 2013 **17**(5C) 74-78*

With the development of information technology and Internet, the emergence of WEB2.0 has been applied extensively, has penetrated progressively into the field of education, and has brought new hope for the knowledge management. The 21st century is an era of knowledge-economy, the university is a knowledge- concentrated organization, knowledge is the core resource and asset of creating value, the university teachers are important carriers on knowledge of research, communication, innovation. This paper builds teacher knowledge management system based on WEB2.0 and analyzes the environment of the teacher knowledge management system

Keywords: knowledge management, teacher knowledge management, WEB 2.0, management support system

The research into the financial dynamic style using a state-space mode
Ye Ai-hua, Chen Yin-e
*Computer Modelling & New Technologies 2013 **17**(5C) 79-82*

The fund circulation is increasing in the domestic market of financial securities investment, this have frustrated investors a lot. Owing to the fuzziness of each investing objective, mismatched investment momentum of contract and the investors' demands, and merely publishing investment portfolio for 4 times, it is difficult to for investors to obtain relatively, practical investment portfolio modes. To solve this problem, this research systematically analyzed styles of treasury securities investors using financial profits style analysis, proposed a dynamic style analysis method based on Bayesian filtering, and state-space model. By introducing the examples, the results were assessed with a constraint. The combination model was conducted virtualization processing. The results show that dynamically assessing the financial investment style using the algorithm proposed is proved to be feasible.

Keywords: financial dynamic style, Kalman filter, state-space model

A research on RMB exchange rate based on big mac index empirical analysis
He Jia
*Computer Modelling & New Technologies 2013 **17**(5C) 83-86*

Based on the Theory of Purchasing Power Parity (PPP), the Big Mac Index is widely used to measure whether a country's currency is at its "correct" level since it is easy to understand and clear and also is considered to be one of the important indices for evaluating a country's currency real exchange rate. This paper performed empirical study on the Big Mac index of Australia, Britain, Japan and Singapore by adopting regression analysis model. The test results show that the regression analysis results support the PPP theory, namely the big MAC index is an effective tool to determine exchange rate equilibrium. On this basis, this paper analyzed the RMB exchange rate level evaluated by Big Mac index, and considered that RMB exchange rate is a certain degree undervalued, and will be at a slowly rising trend consistently.

Keywords: Big Mac index, RMB exchange rate; theory of purchasing power parity

Evaluation and development countermeasures on reverse logistics operations under E-commerce environment
Wang Dong
*Computer Modelling & New Technologies 2013 **17**(5C) 87-90*

Consumers have been accustomed to undertaking routine logistics activities through e-commerce websites with the expansion of original e-commerce over the past few years. Under this circumstance, people are gradually paying more and more attention to unique operation models of reverse logistics. In this paper, unique environment of e-commerce and outstanding

characteristics of its logistics operations were clarified and analyzed. Besides, distinct novel model of reverse logistics was objectively evaluated and a special evaluation model was constructed. Besides, appropriate development strategies were explored according to current market situation as well. Unique evaluation models for reverse logistics are helpful for enterprises to solve multiple difficulties under new frameworks. It is necessary for enterprises associated with reverse logistics to identify consumer demands, properly process real-time information and guarantee quality improvements in logistics.

Keywords: e-commerce environment, reverse logistics evaluation; model evaluation; development countermeasures

Teaching practice research of ideological and political classes based on the means of multimedia
Mu Mu, Zhang Jing
Computer Modelling & New Technologies 2013 17(5C) 91-94

With the rapid development of multimedia technology, multimedia technology has established a deep connection with various social fields. Under this background, this article will focus on the multiple problems of traditional teaching method of ideological and political classes existing in today's network environment. It carried on analysis and summary specifically for these problems, summarized the innovation and reform path of ideological and political teaching mode under the network environment, and performed theoretical analysis and practical conditions summary of the innovation and reform method. Meanwhile, this article illustrated how to embody the innovation points of the improved ideological and political teaching mode being superior to the traditional one based on the combination of the actual teaching practice.

Keywords: the means of multimedia, ideological and political classes teaching, teaching practice, investigation

Analysis based on the teaching pressure and living pressure model of China's college teachers
Ma Yan
Computer Modelling & New Technologies 2013 17(5C) 95-98

It has been found from relevant research and survey that currently, college teachers are facing the pressure of various aspects, including working pressure, living pressure, environmental pressure and health pressure, etc. These pressures will direct affect teaching quality, target cultivation and students' quality. Aiming at the above problems, teaching pressure and living pressure model of China's college teachers has been established in this paper. The results shown that the model established in this research can be applied in real investigation, which has provided a reference to enrich China's working pressure and living pressure management theory and for colleges and teachers to cope with working pressure and living pressure. So its theoretical and practical meanings are very significant.

Keywords: college teachers, teaching pressure, living pressure, model analysis

An analysis of response coupling relationship between supply demand inbound tourism flow drive and urban destinations
Pan Li
Computer Modelling & New Technologies 2013 17(5C) 99-102

Inbound tourism is an important way for a country or region to earn foreign exchange and resolve the employment problem. The development of inbound tourism can not only measure the local economic development level, but also measure the international level of the tourism industry. In this paper, supply and demand in economics is taken as a foothold. By constructing the corresponding system model between inbound tourism flow and urban destinations, it analyzes the coupling relationship between inbound tourism flow and urban destinations.

Keywords: supply and demand, inbound tourism, coupling relationship

Production of English vocabulary teaching courseware based on multimedia technology
Wang Chunhui
Computer Modelling & New Technologies 2013 17(5C) 103-106

As multimedia technology continues to popularize in various fields, English teaching is gradually combined with multimedia technology. Vocabulary learning is often a difficult point in English. English vocabulary teaching courseware based on multimedia technology can help students improve their English vocabulary learning effect and enhance their initiative. This paper mainly studies the production of English vocabulary teaching courseware under multimedia technology.

Keywords: multimedia technology, English vocabulary, teaching courseware

Mathematical theory development model in public sports education for university students
Chen Long
Computer Modelling & New Technologies 2013 17(5C) 107-111

This paper aims to study the development model of public sports education, explore the factors that lead the development of public sports education, and give suggestions and measures. Firstly, by analyzing the situation of public sports in a university with literature method and questionnaire method, the paper explores the factors affecting the development of public sports. On

this basis, according to mathematical theory, this paper takes organizational theory as the basis and uses Logistic model to analyze the sustainable development of public sports. This paper points out that the sustainable development of sport education system is characterized by its fairness, sustainability, commonality, time sequence, spatiality and identifiability, while it is realized by the rational use of rise and fall. Rational use of rise and fall mainly relies on teachers' leading of students and development of rich sports education scenarios. The scope of investigation in this paper is limited and the data does not fully reflect the development situation of public sports of all university students. The more comprehensive investigation and the establishment of a better model will provide more improvement suggestions for public sports education development.

Keywords: university students, public sports, mathematical theory, logistic model, development

Analysis on the application of Internet-based exercise prescription teaching method in PE class
Cao Weiping, Zhou Guangchun
*Computer Modelling & New Technologies 2013 **17**(5C) 112-114*

For now, with various specialized features, the Internet-based exercise prescription teaching in PE class has resulted in significant teaching achievements in teaching field and been popular among the teachers of various disciplines. Besides, it contributes to learn the knowledge in the class more efficiently for the students. However, the exercise prescription teaching in physical education based on the Internet has been so far widely used in various disciplines, except for the physical education. Under this circumstance, the study explores the application of exercise prescription teaching in physical education based on the Internet, by means of related literatures, the method of calculation, as well as the actual situation of physical education.

Keywords: internet-based, exercise prescription teaching, physical education, application analysis

Relationship between strengthening internet-based physical teaching and the improvement of excellence rate of students' physique health tests
Chen Jun
*Computer Modelling & New Technologies 2013 **17**(5C) 115-117*

According to current teaching objectives of PE class in China, the teachers are required to take measures to ensure adolescents' physical and mental health, and they are suggested to enrich the physical education means based on existing level, promote the reform of physical education, establish sound sports mechanism, lengthen the students' sports time and fundamentally guarantee youths' good health. Accordingly, this study will focus on the relationship between strengthening psychical teaching and the improvement of fine ratio of students' physique health test based on Internet via analysis of mathematical model, and it concludes that strengthening Internet-based physical teaching can improve the students' physical quality. It is hoped that this study can provide valuable reference for domestic physical teaching

Keywords: internet, physical teaching, students' physique, physical health test, the excellence rate

Feasibility analyzing for shoulder joint training device promoting in primary and secondary schools
Gou Xiaoping, Lu Pingsheng, Lu Pingsheng, Yuan Mingyu
*Computer Modelling & New Technologies 2013 **17**(5C) 118-121*

The shoulder joint is the most flexible joint in the human body. There are shoulder joint training devices in the fitness squares, which are divided into two kinds of single-disc and double-disc. People handle the rings to carry out shoulder training by two hands. The exercise value is not up to the purpose of shoulder joint flexibility training. The primary and secondary school is the most critical period for the development of the flexible quality. The schools are lacking the special device for the flexibility training, which leads the poor flexibility of the students and cannot achieve the expected teaching effect. In order to solve this problem, here designs and produces the shoulder joint training device. This invention patent has been authorized. The feasibility of the product takes the way of literature, mathematical statistics and experiment to carry out comparative analysis and research. The experimental results show that: using the shoulder joint training device has a remarkable effect.

Keywords: transportation planning, model, strategy

Research on issues of endowment insurance for urban villagers in Shijiazhuang city
Liu YiChen, Li Chunbo, Pei Wensi
*Computer Modelling & New Technologies 2013 **17**(5C) 122-127*

Endowment insurance directly relates to peasants' immediate interests, and has a direct influence on later life of landless peasants. The endowment insurance system for landless peasants has to be improved. Through survey and interview, as well as sampling of urban villages of Shijiazhuang City, where landless peasants mainly live, this paper adopts four-dimensional ecological model and analyzes the existing problems of endowment insurance for land-less peasants in urban villages of Shijiazhuang City. And on that basis, some specific solutions are provided.

Keywords: endowment insurance, landless peasant, ecological model

Innovation of tennis teaching at College's PE major based on multiple intelligence theory
Zheng Zhilei

Computer Modelling & New Technologies 2013 17(5C) 128-131

At present, the popularity of tennis in colleges and universities is gradually deepening, when the traditional teaching theory of tennis is hard to meet the actual teaching requirement of tennis. Under this background, this paper is going to give a deep research and analysis on tennis teaching at colleges and universities, take multiple intelligence theory as the basic theory guidance, and adopt the methods of literature review, survey report and math statistics analysis to explore the objective law of tennis teaching at China's colleges and universities. Through the research, this paper finds out that the guidance of multiple intelligence theory can promote tennis teaching efficiency of at college's PE major. Therefore, it can be seen that adopting teaching method of multiple intelligence can promote students' activity accordingly and improve students' comprehensive quality roundly in the teaching process of tennis at college's PE major.

Keywords: multiple intelligence theory, College's PE major, tennis teaching, innovation

Control model of bus priority at signal intersection considering green loss equilibrium
Hu Xinghua, Zhu Xiaoning, Long Bing
Computer Modelling & New Technologies 2013 17(5C) 132-139

To equalize the side effect that caused by the delay due to bus priority at intersections, three methods for green loss equilibrium to achieve bus priority were studied, including green extension, red truncation and phase insertion. Based on the assumption that vehicles arrives linearly, delay analysis were made at single priority request of non-saturated intersection when equilibrium is lost. Computing formula of intersection delay was presented with consideration of green light time non-priority phase loss and make-up during green light time. A timing optimization model was established which is known as normal traffic at rest phases, while objects to a function that maximize average delay at intersection. Based on Frank-Wolfe algorithm, solution came out under the diagonalized design. Instance analysis indicates the timing optimization model effectively balanced green loss at phases of non-priority, while deduced the amount of delaying at intersections. New delay calculation more explicitly described the delay change at intersections of bus priority

Keywords: traffic engineering, bus priority signal intersection, control, timing optimization model, delay, equilibrium, green loss

Efficient big data processing strategy based on Hadoop for electronic commerce logistics
Ci Jiaojin
Computer Modelling & New Technologies 2013 17(5C) 140-144

With the rapid development of cloud computing, more and more electronic commerce applications are confronted with the problems of processing big data, such as big data from the social media posted by the customers of electronic commerce logistics. In order to improve the big data processing efficiency in electronic commerce logistics, an efficient big data processing strategy based on Hadoop is designed, which is named ECLHadoop. In ECLHadoop, those closely related data blocks are placed at the same nodes, which can help to reduce the MapReduce I / O cost, especially the I / O cost at the shuffling stage. The simulation experiment results show that, based on Hadoop, the ECLHadoop can improve the big data computing efficiency for data-intensive analysis in the electronic commerce logistics service.

Keywords: big data, data placement, big data analysis, big data computing strategy, electronic commerce logistics

Research on the impact of rural tourism on economic growth and employment level based on VAR model
Song Hui, Zhang Ning
Computer Modelling & New Technologies 2013 17(5C) 145-149

In this paper, we use the time series model to analyze the impact of rural tourism to economic growth and employment rate. As rural tourism is a significant factor that will influence the regional economic growth and employment levels, so we make a statistical analysis of the impact of rural tourism growth (RTG), economic growth as gross domestic product (GDP) and tourism industry's employment rate (RET). The result shows that: First, rural tourism will promote GDP increase. LnRTG at lag 1 period increased one percentage can drive LnGDP increase by 0.871 percentage; Second, rural tourism will also have positive influence to employment rate. LnRTG at lag 1 period increased one percentage can drive LnRET growth by 0.026 percentages; Third, LnRTG is the granger reason to LnGDP, which means rural tourism growth is the reason to the economic growth. At the same time, LnRTG is also the reason to LnRET. In addition, the rural tourism has a certain contribution degree to economic growth and employment rate, and can be used to explain the rising of GDP and employment rate. On this basis, we put forward the related policy suggestion.

Keywords: rural tourism, economic growth, employment rate, causality test, impulse analysis

On the evaluation of sustainable development of marine economy based on AHP - a case study of the New District in Zhoushan Islands
Gu Yaqing, Guo Cong
Computer Modelling & New Technologies 2013 17(5C) 150-154

Based on the general and concrete principles of index system of marine economy and the choices of the evaluation index, this

paper analyzes the index importance by means of AHP and establishes a set of the evaluation index system of marine economy in the New District in Zhoushan Islands, to which an overall analysis and appraisal is given. The main factor that has limited its sustainable development of marine economy, in combination with the factors that influence its development, are put forward in accordance with its connotation of sustainable development of marine economy.

Keywords: AHP, marine economy, sustainable development, evaluation, the New District in Zhoushan Islands

An improved degree measurement index based on the social network
Dai Lu, Li Guangming
Computer Modelling & New Technologies 2013 17(5C) 155-159

This paper stems from discussion of the structure of the scientific collaboration network, utilizes t methods of complex network analysis and social network analysis, give out an analysis on the scientific collaboration network from both macro and micro perspectives, and in both dynamic and static way. This paper extracts 16 years of conference proceedings articles from 1995 to 2014 as an experimental data set, with the corresponding network known as collaboration network of data mining. Based on analysis of the classic centrality metric, an improved node centrality metrics (c-index) is proposed, to measure collaboration strength of nodes in a weighted collaboration network.

Keywords: social network, collaboration network, centrality measurement

Research on the design of B/S structure sports equipment rental system of school based on local fractional algorithm
Zheng Bing
Computer Modelling & New Technologies 2013 17(5C) 160-163

The school's sports equipment management centre has run the sports equipment management in long-term. It was on manual paper records to record sports equipment storage, do statistics, lend, and get back. It cannot get the sports equipment timely statistical information, and cannot record the information. So a simple and easy solution effective was needed. The main subject of the research significance: We plan to build a suitable school sports equipment hiring management systems. It has analysed the system architecture and design patterns, and analyzed the system using J2EE development platform and B / S architecture. The equipment hiring system should include the data entry module, the equipment online query module, online reservation module and statistics module. It learns the functional requirements of the system, the database structures, and the system features modular and architecture design. We used the open resource coding platform.

Keywords: software engineering, B/S architecture, equipment rental, equipment management, local fractional algorithm

Research on a new membership functions based on fuzzy SVM
Xu Qiuhua
Computer Modelling & New Technologies 2013 17(5C) 164-166

Traditional membership functions in fuzzy SVM (FSVM) were designed based on the distance between a sample and its cluster center, which are irrational for dataset with non-spherical-shape distribution. A new membership function was proposed based on the distance between a sample and a hyper plane within the class. It overcomes disadvantages of traditional designing methods and improves the generalization ability of FSVM, while reducing the dependence of membership function on the geometric shape of sample data. Numerical experiments show that, compared with the traditional SVM and three FSVM with different membership functions, FSVM with new membership function has better classification accuracy. The New method is simple and its computation time is less.

Keywords: support vector machine, fuzzy support vector machine, membership function, classification

Power systems adaptability evaluation using neural network
Chen W.H.
Computer Modelling & New Technologies 2013 17(5C) 167-172

This paper proposes a new strategy at the system level to evaluate and mitigate power system cascading outages adaptability considering protection system hidden failure. An explicit probability model of protection system hidden failures is established to demonstrate its effects on power system adaptability. The event tree is used to analyse the cascading outages sequences. Some adaptability indices are used to evaluate cascading outages adaptability. The neural network is used to obtain the adaptability indices and to propose a solution that can decrease the system cascading outage adaptability under limited budget. The IEEE system is used to illustrate the methodology and present the results.

Keywords: power system, adaptability, evaluation, fuzzy, neural network

Application research on long jump training and guidance based on data mining
Lu Tao, Zhang Xiaojun
Computer Modelling & New Technologies 2013 17(5C) 173-178

This paper adopts the data ware house technology and data mining technology to establish a sports training assistant decision support system for long jump athletes. To make organic integration of the training factors for athletes, it applies scientific training theory and advanced training methods to the sports training management. We focus on the improvement of two classic data mining algorithms: association rules of Apriori and decision tree classification ID3. For Apriori algorithm, we improve the connections and pruning strategy when creating (k+1)-order frequent item set by k-order frequent item set, and the process pattern of transactions. For the defects of ID3 algorithm, we propose to reduce the computation of attribute gain selection when establishing the tree, and provide corresponding scheme to set the attribute importance. Then the actual examples are used to apply the improved models to the sports training assistant decision support system. The results show our algorithm improve the mining efficiency actually. The generated strong association rules which have higher association can be imported into knowledge library as important base for the sports training schemes.

Keywords: converter training samples, apriori, ID3, data warehouse, data mining

Predicting the High-rise building construction project safety risk based on QPSO-SVM model

Miao Yuhai, Chen Jing

In this paper, we aim to solve the problem of high-rise building construction project safety risk forecasting. The main innovation of this paper lies in that we convert the project safety risk forecasting problem to a classification problem, and design a novel QPSO-SVM model to implement the classification process. Before predicting the project safety risk, we present an index system, which contains six first-layer indexes, such as "Falling accident", "Objects striking accident", "Collapse accident", "Mechanical injury", "Fire disaster in construction", and "Electric shock injury". Particularly, 29 indexes are included in the second-layer of this index system, and these 29 indexes can effective represent almost all influencing factors in high-rise building construction project safety risk prediction. Next, we describe how to select optimal parameters of SVM classifier using the quantum behaved particle swarm optimization policy. Finally, experimental results demonstrate that, compared with other schemes, the proposed hybrid QPSO-SVM can forecast the high-rise building construction project safety risk with higher accuracy.

Keywords: high-rise building, safety risk predicting, QPSO, SVM, particle

Microblog oriented user interest analysis and implementation in personalized information service

Tang Lifang

This paper analyzes and studies the user interest in microblog data and the methods for personalized recommendation. It designs a microblog oriented personalized modeling system and explains the overall structure from a macro point of view. The personalized modeling system for microblog users includes two major parts: interest extractor and personalized model generator. In interest extraction and classification, we use a combined classifier by naive Bayes and support vector machine, to filter the microblogs unrelated to users' interest. At the phase of personalized model generation, we propose the indicators of long-term and short-term interest by analysis on rules of topic distribution. Two different updating mechanisms are adopted to meet users' demand for update quality of long-term and short-term interest. The experiments implement our research on a specific information push services system of user blog. Then the relative evaluation indicators in information retrieval verify the correctness and feasibility of the improved algorithm.

Keywords: microblog, user interest, personalized system, cluster, combined classifier

Optimal control strategy of rural medical insurance system based on elderly people's satisfaction

Hui Cai

As a key part of the modern social security system, medical insurance system is crucial for human health and medical insurance. Especially in rural areas, medical insurance system is an important way to guarantee the health of elderly people. Therefore, this paper concentrates on the problem of rural medical insurance system design to satisfy elderly people's requirements. In China, the medical insurance consists of "social medical insurance" and "commercial medical insurance". Particularly, the basic medical insurance is constructed by "Basic medical insurance for urban workers", "Basic medical insurance for urban residents", and "New rural cooperative medical insurance". Afterwards, we present an optimal control strategy of rural medical insurance system, and the elderly people's satisfaction is regarded as the restrictive condition. Particularly, the optimal control strategy aims to maximize the expected value using the dividend barrier and the control policy at a specific time point. Then, the optimal control strategy of rural medical insurance system is obtained via maximizing an optimal return function. Finally, performance of the proposed strategy is tested through insurance will investigation by randomly choosing 10 administrative villages in China's rural areas. Experimental results show that using the proposed optimal control strategy, insurance will investigation of elderly people is effectively promoted.

Keywords: rural medical insurance, optimal control strategy, stochastic differential equation, optimal return function

Risk evaluation of oversea investment of Chinese enterprises based on fuzzy-AHP

Qi Zhong

This paper is aimed at studying risk evaluation of overseas investment of Chinese enterprises with the application of fuzzy comprehensive analytic hierarchy process (AHP). In order to complete this task, this paper constructed the index evaluation system from three aspects that were macro, meso and micro to assess the risk of foreign investment of Chinese enterprises, the risk factor was divided into three main factors and eleven subfactors. The weight of each factor was defined by means of AHP. On this basis, this paper assessed the risk of direct investment of enterprise S in country X by means of fuzzy comprehensive evaluation, and the result is a high risk rating. The results show that fuzzy comprehensive analytic hierarchy process is good at the risk evaluation of oversea investment of Chinese enterprises, and it provides a reference for oversea investment of Chinese enterprises.

Keywords: overseas investment, risk, analytic hierarchy process (AHP), fuzzy comprehensive evaluation

Research on several factors affecting the structural stability of lace material and clothing effect and its solutions

Yang Juanying, Miao Xiaoyan, Yang Jun

This paper analyzed the characteristics of the material and aesthetic lace, clothing style control characteristics of each period of change and development in terms of lace and lace used in the modern types of clothing. Investigate the factors that affect the stability of lace fabric apparel and clothing results in pattern design and process when considering the fabric, structure, process, finishing factor. Through the role of the experiment, testing different organizations, different numbers and different number of warp and weft yarns dense lace slip resistance to research clothing structure, technology, fabrics, such as pre-treatment and finishing of garments and clothing effect structural stability. This paper wanted to meet the structure balance of lace bodice garment and have beautiful effect.

Keywords: lace material, clothing structure balance, clothing effect, element, solutions

Study on public art design methods of metro space with Zhengzhou Metro line 1 as an example

Yan Binbin

In this paper, it has been researched from not only characteristics of metro public art design but also principles and methods of metro public art design. The author suggests that humanized design principle play a key role in the process, and the metro space public art design should satisfy both people's aesthetic and functional needs. The paper studies design methods employed in Zhengzhou metro for an instance, such as theme design, refining cultural elements, and one color for each line and one landscape for each station. Then the author argues that the metro public art should be regarded as a carrier, which makes people recognize cities' images and cultures.

Keywords: metro public art design, design method, design principle, city culture

A study of the construction of teaching staff of He Nan private universities

Zhang Jun

Under the strong promotion of "Twelfth Five Year Plan", more and more attention is paid to private colleges from higher education of our country. With the further development of private universities, teaching staff of private universities is becoming a top priority of its development process. Based on the analysing the current situation of private colleges faculty construction in Henan, this paper introduces the mathematical principles of Markov analysis model and its basic forecasting steps. Then this paper establishes an application example of Teaching Staff planning utilizing Excel, carrying out the quantity plan and classification plan. At last, this paper analysis the result of planning results.

Keywords: private college, teaching staff, Markov analysis model

Convenient pickup point in e-commerce logistics: a theoretical framework for motivations and strategies

Junjie Xu, Min Wu

The deployment of convenient pickup point is a novel way to tackle the bottleneck of terminal delivery in e-commerce delivery, exploration of key development motivations and channel organization strategies are beneficial to theoretical research as well as practice of relevant enterprises. Based on China industrial environment, a four-ring key motivation positioning model is proposed. In this model, the key motivation of e-commerce enterprise, express enterprise and the third-party platform is identified to improving service level, controlling delivery cost and pursuiting economical profit respectively, the detailed basis for above judgment is also provided. The development patterns of convenient pickup point are discussed, and a joint development alliance is encouraged to construct public pickup service network. Two kinds of operation patterns are compared with a prediction on evolution trend, developers are suggested to establish unattended point if provided captical guarantee. The potential schemes of channel layout are also revealed, to protect consumer's perceived convenience, the entrance of residential

area is regarded as the optimal place to establish pickup point. At last, conclusions and shortcomings are summarized with some proposals of further research directions.

Keywords: e-commerce, logistics, pickup point, delivery management

One improved P2P electronic commerce trust model
Zhao Xue
*Computer Modelling & New Technologies 2013 **17**(5C) 214-218*

To effectively solve the security problem in P2P electronic commerce trading, this paper analyses the existing trust model and proposes an improved trust model. The trading sum, trading evaluation, trading time and trading time are introduced into the direct trust computing to prevent against malicious cheat of nodes. The punishment factor suppresses the cheat behaviour of nodes and effectively prevents the malicious nodes from cheating at certain frequently. When recommendations from other nodes are combined, the weighted averaging method and trust of the recommendation nodes are used to effectively prevent malicious nodes from providing malicious recommendation. The simulation experiment indicates that this mode can effectively beat the malicious nodes, protect the honest nodes, enhance security of the P2P electronic commerce nodes, and reduce the trading risks.

Keywords: electronic commerce, trust model, trust evaluation, network security

An Empirical study on affecting factors of stock returns based on the structural equation model-manufacturing as the example
Li Hua, Dou Shiting, Sun Qiubai
*Computer Modelling & New Technologies 2013 **17**(5C) 219-222*

This paper uses the structural equation model, and selects 300 listed companies of manufacturing as the research object, and chooses investor sentiment, profitability and financial index as potential variables, selects a few observed variables to study the influence on stock returns. The results found that profitability, investor sentiment and financial index have certain influence on stock returns, and it is a positive correlation. The biggest impact on stock returns is profitability, and then followed by the investor sentiment and financial conditions. In this paper, the research provides a certain reference for investors to make rational investment decisions.

Keywords: manufacturing, stock returns, structural equation

Agricultural drought disaster risk evaluation in Guizhou
Li Yanbin, Song Sihan, Zhang Zezhong, Xie Ruyi
*Computer Modelling & New Technologies 2013 **17**(5C) 223-228*

The paper established the model of agricultural drought disaster risk evaluation and assessment index system, defined disaster risk threshold value by using the analytic hierarchy process (AHP), weighted synthesis method and natural hazards index method in the case of Xiuwen, Meitan and Xingren County in Guizhou province. Considering factors of natural, social economic, hazard of disaster-causing factors, the exposure and vulnerability of hazard bearing body and drought resistance ability, guided by theory of meteorology, agricultural science, disaster science, natural disaster risk science and other multi-disciplinary theories, scientific of the model is verified by relevance analysis of crop yield losses estimated on the base of agricultural drought disaster temporal series and drought disaster risk index. The result can provide directions and guidance for drought forecast and risk management in Guizhou province and the similar area.

Keywords: agricultural drought disaster, risk evaluation, disaster risk threshold value, Guizhou

A risk-reward balancing model of generation side and purchasing side based on optimized total risk-reward
Chen Shoujun, Chen Kun, Tan Zhongfu
*Computer Modelling & New Technologies 2013 **17**(5C) 229-233*

This paper used the Modern Portfolio Theory (MPT) to analyze the risk-reward of purchasing side and generation side by purchasing-selling power from multi-market, considered the game between the risk-reward of purchasing side and generation side and built a balancing risk-reward model of two sides in the condition of the optimal total risk-reward of both sides. Based on the total optimal risk-reward, the model optimized the purchasing-selling power proportion portfolio to make the risk-reward of both sides in their acceptable range and increase their reward at the same time. The simulation example confirmed the validity and suitability of the model, and manifested that the proposed model provides both the power purchasing side and the generation side some reference and guiding value for purchasing decision -making.

Keywords: MPT, electricity market, power purchase portfolio, power selling portfolio, balancing risk-reward

Research on the key technology of urban planning virtual emulation system base on open GL
Zhao Guoliang, Zhao Guolin

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3dmax software is a tool of three dimension model. VC is a platform of development. OpenGL is interface of graphics. Urban planning three virtual emulation system is developed. The key technology is researched: 3dmax texture render, three dimension model reading and demonstrator, DirectSound sound effect control, LOD, sun shadow analysis. The system is a successful application of urban planning virtual emulation.

Keywords: virtual reality; OpenGL; 3dmax; LOD; sun shadow analysis

Optimization of shortest path of multiple transportation model based on cost analyses
Yang Yang
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In transportation process, normally there are several modes to deliver goods and sometimes there is cross-transportation or multimodal transport mode. Meanwhile, in the transportation process, transportation costs, time and risks vary with timeframe. Due to the characteristics of transportation network, transportation costs and transit time will vary with different starting time. Transportation costs can be divided into fixed costs, road transportation costs and transit fees considering multiple influence factors and various options, for instance, railway, airline and waterline. This article illustrates in detail that optimization of shortest path of multiple transportations based on cost analyses and this mode has been verified by genetic algorithm.

Keywords: multimodal transport, route optimization, shortest path, genetic algorithm

Earning quality, Venture capital and Firm value
Li Jiujin, Wang Fusheng, Xu Chang
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In order to study the impact of earning quality and venture capital on firm value for small and medium-sized enterprises, the paper selects data of small and medium-sized enterprises from 2009 to 2012 in the Shenzhen stock exchange, which finds a positive correlation between earning quality and venture capital. For promotion of firm value and own reputation, the intervention of private equity investment strengthens positive correlation between accounting earning quality and venture capital. The research indicates that the less earnings management behavior exists, the higher earning quality and firm value is. In addition, the intervention of venture capital effectively inhibits earnings management behavior and improves firm value, strengthening positive correlation between earning quality and firm value. The conclusion enrichs related literature and also has an important theoretical significance and reference value for controling earnings management behavior, elevating earnings quality, optimizing the intervention of venture capital and perfecting the related systems.

Keywords: earning quality, Venture capital, firm value

The fund input mechanism of compulsory education for migrant workers children in China: Guangzhou evidence
Du Guoming
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The migrant workers have made great contributions to the developed cities, but their children have not fair compulsory education rights in China. Based on an analysis of compulsory education situation, problems and causes of the migrant workers children in Guangzhou the paper believes that it is the key to establish a fair fund allocation mechanism among the inflow governments. The outflow governments and the central government, and proposes three policy recommendations such as building education voucher system in the whole country, eliminating gradually the dual education system, establishing a diversified compulsory education system, and so on.

Keywords: migrant worker, school-age children, compulsory education, fund input mechanism

Integration of enterprise marketing practice and school education based on diversified network teaching
Wang Xiaodong
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This paper focuses on the status among the quality required for marketing personnel, school education and enterprise marketing practice. According to fuzzy comprehensive evaluation method and features of talent evaluation, evaluate the fuzzy comprehensive value of talents by percentage calculation method to determine the basis and level of talent evaluation. This paper describes how to integrate school education into enterprise marketing practice through the diversified network teaching. Enterprise marketing needs to dismiss traditional disadvantages, combine with other countries' marketing methods to make it more scientific and sound, which plays a decisive role in the enterprise. It is a big revolution to teach with enterprise marketing while using the internet, which will have equally important significance.

Keywords: network teaching, school education, marketing, integration

An analysis of psychological stress model of college students' employment

Zhang Weifeng

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With the development of educational businesses in our country, there have been more students attending colleges. This is conducive to universal education. However, the employment problem for graduated college students has become increasingly prominent, one of which is students' psychological pressure in the wake of employment. To effectively address this issue, this paper combines relevant survey data, discusses the source of employment psychological stress of college students and the adverse impacts of negatively coping with pressure through data analysis and comparison, and proposes countermeasures.

Keywords: employment, psychological stress, pressure experience

English vocabulary teaching based on multimedia technology

Ren Mei

*Computer Modelling & New Technologies 2013 **17**(5C) 263-265*

With the rapid development of internet technology, there is a deep connection between social fields and information network. Under such background, this paper will focus on exploring various problems of traditional English vocabulary teaching in current network environment, analyzing these problems with target, summarizing the innovation and reform of English vocabulary teaching mode in network environment, theoretically analyzing the ways of innovation and reform, analyzing and summarizing the realistic conditions. Through the research, the paper found that the English vocabulary teaching based on multimedia technology can better stimulate students to learn English vocabulary, with better teaching result than traditional English vocabulary teaching.

Keywords: multimedia technology, English vocabulary teaching mode, reform and innovation, exploration

Application of SECI model in ideological and political education of university students

Shang Yingbin

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Strengthening ideological and political education of university students is of great significance to help university students establish a correct outlook on world, life and value, and enhance their political enthusiasm and quality. However, from the perspective of current situation of ideological and political course teaching for university students, the effect is not particularly desirable. SECI model theory, as a core theory of knowledge management, elaborates the process of constant interaction between tacit knowledge and explicit knowledge. With SECI theoretical model as the basis and from the empirical perspective, this paper verifies the effect of SECI theory in the process of ideological and political education, and based on this, proposes targeted measures to improve the effect of ideological and political education.

Keywords: SECI, ideological and political education, knowledge internalization, empirical analysis

Study on the application of context in college English translation teaching

Deng Yanling

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With the constant development of China's social economy, college students are expected to have higher comprehensive quality. Meanwhile, English translation ability, as one of the necessary capacities in reading English articles, becomes one of the key items in cultivating college students' English skills. Under such background, this paper provides a specific analysis of approaches to improve the college English translation teaching. In the process of college English translation teaching, the actual features of English shall be fully considered to conduct study on the application of context in college English translation teaching. Furthermore, several specific countermeasures to promote the application of context in collage English translation teaching is are summarized. Based on these measures, it is to maintain the unique cultural connotation of English articles and promote the standardization development of English translation in the process of applying context to college English translation teaching.

Keywords: context, college translation teaching, application study

Comparative study of traditional tennis teaching method and modern tennis teaching method

Zhao Jigang, Song Wei

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As the tennis class is established in universities of China, the traditional tennis teaching ideas and methods can hardly adapt to the increasingly changing education needs of social sports. This paper adopts the literature review, expert interview, questionnaire, logical analysis and other methods, takes the multiple intelligences theory as the theoretical guidance, and starts from fives links including teaching ideas, teaching objectives, teaching contents, teaching methods and teaching assessment to explore the teaching rules of tennis in Chinese universities, innovative the tennis teaching in sports major of universities, and point out the application of multiple intelligences theory in the physical education: starts from the interest stimulation; cultivate and inquire the learning abilities, create new type teacher-student relationship; develop healthy life style with body building as the priority. The multiple intelligences theory is of practical significance in the physical education: it enriches the teaching methods for physical education; it proposes high requirements for the quality of teachers. The sports teachers in universities shall take full use of teaching activities and conduct various teaching contents combined with the teaching objectives,

strengthen the cultivation of students' psychological quality at the same time of improving their physical quality, to ensure all-around development of the students.

Keywords: SOFC, universities, multiple intelligence, tennis, teaching, physical education

The competition pattern of World Olympic Winter Games and the achievement outlook of Chinese superiority project

Jun Liu

This paper makes statistics of the medal number of every continents and part of the competition results of the competing countries in 21st XXI World Olympic Winter Games and carries on the contrast analysis. At the same time, we studied the Chinese all previous Olympic achievements and the development of Chinese Olympics results, we analyzed the competition pattern and the Chinese Olympic Games development process, limitations and development space. Results showed that China must break through the status of the single source of gold medals and we should vigorously develop China's Olympics entries, and widely develop the athletic talents of other Chinese Olympic projects, we also need to vigorously develop top athletic talent of China's Olympic sports, and make extensive training of China's ice and snow sports talents as well.

Keywords: Winter games, the competitive landscape, advantage, statistical analysis