From a Computer Teaching System Perspective: Teaching Strategies and Educational Economics in the Neuroscience of Genetic Algorithms and Annealing Algorithms and Biology

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Abstract: The three main research methods of machine learning are difficult to enter, difficult to penetrate, difficult to apply and difficult to fall. Computeric pedagogy needs to clear the hurdles for academics in various disciplines, and bio-engineered computer teaching systems need to make breakthroughs based on advances in biology. We used computer teaching techniques to design teaching points in neuroscience. The authors report and analyze the results of this study.

Keywords: Computer Education; Genetic Algorithms; Annealing Algorithms; Neural Network Algorithms

Computer-aided teaching is a complex systems engineering project in which uniform standards must be developed and adhered to ensure the scalability of the system. To establish standard computer-aided teaching data encoding standards or specifications, formulate teaching application software development and construction specifications, standardize teaching application software system development, and ensure organic integration of applications. Virtualization is another major trend in the development of computer-aided teaching. As computers move faster, the invention of large-volume, high-speed data storage tools, and the development of a variety of human-machine interface and virtual reality technologies, computers will process a large volume of sound and image information at will. In computer-aided teaching, virtual reality technology will be widely used, with students not only listening to or seeing all kinds of information, but also able to enter into the study content. Computer networks offer broad spaces and diverse possibilities for collaborative learning. Classrooms and classrooms, laboratories and laboratories, schools and schools, and countries and countries will eventually form a huge network of computers that will integrate schools and students, fully develop and use human resources in teaching, based on a broader communication context in which teachers and students can move beyond their homes to teach, exchange, and discuss, and students can learn on their own initiative and on their own initiative. Adding new connections to education under big data, technology flows to schools and classrooms, and "smart education" creates new forms of education, such as educational robotics, double classroom, and personalized learning, through information technology that integrates artificial intelligence, big data, blockchain, virtual reality, and 5G. Smart education can help to provide students with a more comfortable teaching environment, better teaching resources, and better software and hardware facilities, mainly in the following ways:

Traditional oral assessments are predominantly manual, and there are problems of poor uniformity, fatigue, and fatigue, owing to the subjective nature of the examiner. A comprehensive integration of language assessments with AI technology would help to reduce costs and achieve uniform criteria. 2. Personalized learning. Smart education can pinpoint students' weaknesses, specifically recommend test questions and provide solutions, without the need for students to adopt "controversial tactics," and significantly improve learning efficiency. 3. The field of smart interaction. Students learn as they interact with intelligent robotics. For example, some educational robotics combine pediatric education with artificial intelligence technology, setting content systems for children of different ages, and enabling students to learn more about interactions. it is necessary to do so in a timely manner.

The teaching database for computerized teaching systems on the network should meet the following requirements, provided that it meets the requirements for deep learning, and the study team proposes the following strategy:

The Educational Method of Annealing Algorithms: To solve the problem of local optimality, Kirkpatrick et al. proposed in 1983 that simulated annealing algorithm (SA) could effectively resolve the problem of local optimality. We know that the greater the energy in a world of molecules and atoms, the more unstable the molecules and atoms, the more stable the atoms become when they become less energy. The term annealing is used in physics to describe the cooling process of heating an object. Simulation annealing algorithms are derived from a process of crystal cooling, and if solids are not in the lowest energy state, re-cool the solids, and as temperature slows down, the atoms in the solids are arranged in a certain shape, forming high-density, low-energy regular lenses, corresponding to the optimal global resolution of the algorithm. And if the temperature falls too fast, the atoms may lack enough time to arrange the crystal structure, producing an aphakic lens with higher energy, which is the best local solution. So we can give it a little more energy, depending on the process of annealing, and cool it down, and this time it will be successful if it increases energy and jumps out of the local optimality.

Genetic algorithms, the search algorithms used in computational mathematics to address optimization, are one of the evolutionary algorithms. Evolution algorithms were originally developed by drawing on several phenomena in evolutionary biology, including inheritance, mutations, natural selection, and hybridization. Genetic algorithms are typically implemented in a computer model. For an optimization problem, a certain number of populations with abstract representations (called chromosomes) of candidate dissolution (called individuals) evolve into better catalolysis. Traditionally,dimension is expressed as a binary,that is,a series of 0 and 1,but it can also be represented by other methods. Evolution begins with a population of completely random individuals, and takes place in the next generation. Over each generation, the adaptiveness of the entire population is assessed, randomly selecting multiple individuals (based on their adaptiveness) from the current population and generating new life populations through natural selection and mutations, which will become the current population in the next generation of algorithms.

The artificial neural network (ANN) system appeared after the 1940s. It is composed of a large number of neurons with adjustable connectivity values, characterized by large-scale parallel processing, distributed information storage, and good self-tissue and self-learning ability. The BP algorithm, also known as the Error Inverse Transmission algorithm, is a supervised learning algorithm in artificial neural networks. The BP network algorithm theoretically approximates any function, and the underlying structure is composed of nonlinear change elements with strong nonlinear mapping capabilities. Furthermore, parameters such as the number of medial layers of the network, the number of processing elements in each layer, and the learning coefficients of the network can be set on a case-by-case basis, with broad application prospects in a number of fields such as optimization, signal processing and pattern recognition, intelligent control, and fault diagnosis.

The creative groundbreaking thinking cultivation of the above basic knowledge: imitation is the oldest and most vigorable form of design thought and the earliest form of human creation. Imitation was designed to begin with the natural mimicry. During the process of discovering and using nature and transforming it, humans also created themselves, particularly highly developed brains and free hands, and thus further transformed and exploited nature at a higher level, and the level of imitation rose. Many hand tools and instruments created in the hand-industry era, despite simple mechanical principles, are quite similar to the functions of human hands, but most are still in use today. This example vividly reflects the indomitable vitality of imitative design thinking. In the high-tech age, there was considerable progress in the level of industrial design simulation, until computers that imitate human brain intelligence and robots appeared. Functional imitation inevitably leads to formal imitation, especially in the decorative arts, where nature is the main source. Whether functionally or figuratively, imitating design thinking is not natural, and it contains the trait of creative thinking, "taking one thing against the other," as the primary form of creativity. We need to train students to develop groundbreaking, creative ideas at the bottom of the computer, and to apply them widely across a wide range of disciplines to the development of mathematical algorithms for these computers.

The economics of education

The economics of education is a branch of economics that deals with the relationship between education and the economy. The subjects were the role of education in economic and social development, the effective use of education investment, and its economic benefits. It is a marginal discipline between economics, educatives, and mathematics, and a cross-discipline. The study is mainly about (1) the "productivity" of education; (2) the relationship between investment in education as a proportion of GDP, national income, and financial expenditures; (3) the appropriate distribution of investment in education within the structure of the various types of education; and (4) the economic benefits of investment in education. Since the 1980's, educational economics has been increasingly sophisticated. In terms of study methodology, there was a trend toward empirical analysis and individual analyses. Western scholars have begun to look at over-education and its relation to productivity. Over-education manifests itself as a loss of knowledge and a loss of knowledge, which means that the labor generated by education exceeds social demand, and that large numbers of students graduate or lose their jobs. Depreciating knowledge refers to the waste of resources, small jobs, and jobs that better-educated workers can do with less-educated workers. Western education economists argue that the relationship between education and labor productivity is not necessarily positive. To coordinate the development of education with the economy, and to balance the structure of education with that of the economy, workers can find satisfying jobs and realize their professional visions, rather than the higher the level of education they receive. By combining the actual conditions of computation and teaching with those of educational economics, our teaching models for computer science should target an accurate target population and design teaching modules on key hard-to-do algorithms, so that the relationship between supply and demand is consistent with the rules of teaching.

Conclusion

The three research methods of machine learning are difficult to enter, difficult to penetrate, difficult to apply and difficult to work with, but we can address these difficulties in the educational phase by developing a diversified computer model platform design in the future, serving as a hub between algorithmic companies and scientific research institutions, and, in short, it is highly feasible, promising, and well-reporting for computer teaching models to be diversified in machine learning.

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