

Application Electrical Engineering Training and Intelligent Technology of Electrical and Electronic Technology under Artificial Intelligence Technology

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Research Article

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ABSTRACT

With the advancement of contemporary industrial technology and the changing times, computer technology has advanced significantly, leading to the introduction of a novel idea: artificial intelligence. Since electricity makes up the majority of contemporary life, electronic technology has advanced quickly in the present period. Although electronic technology provides the foundation for the development of contemporary intelligent technology, the original electrical and electronic technology is no longer able to compete with it. Thus, this paper's goal is to examine the utilization of electrical engineering training and intelligent electrical and electronic technology using artificial intelligence technology. This study examines the algorithms created by artificial intelligence and the fundamental functioning of intelligent objects after reviewing the history of electrical engineering as well as the evolution, state, and future directions of electrical and electronic technology. Electrical engineering is trained using the enhanced adaptive parameter DBSCAN clustering method, which also serves as a reference for electrical and electronic technological intelligence. The experimental findings demonstrate that an effective algorithm may accelerate electrical engineering training and the intelligent advancement of electrical and electronic technologies.

Introduction

The history of contemporary human progress has advanced significantly since the discovery of electricity. Development is happening at the quickest rate in human history. Modern life has advanced significantly as a result of Ac and the creation of several formula theorems [1]. Since the invention of the computer in 1946, contemporary life has been developing at an ever-increasing rate. Computers are devices that humans use to calculate and process information, replacing the original manner of labor [2]. Consequently, electronic technology and information technology are complimentary, and computer technology and electronic technology are two fundamental elements of contemporary life [3]. On the other hand, the growth of electronic technology is unable to completely keep up with the fast advancement of information technology in recent years. To allow them to adjust to the advancement of contemporary electronic technology, we need reform electrical and electronic technology as well as electronic information engineering, but this is challenging. Even though information technology has only been around for a few decades, people's material lives have changed significantly in those decades [4]. The data size also varies from a few bytes to the current information gathering, from the first software construction to the later, somewhat more complicated applications. from hundreds of bytes to the current tens of billions of bytes to the next million bytes. These represent the rapid advancements in contemporary information technology [5]. However, electronic technology remains unchanged. The present electronic technology in the current change will often arise certain frequency fluctuations to interfere, even if the development of recent years has not decreased. This is a major test for contemporary electrical and electronic technologies since minuscule components in high-

precision electronic devices cannot be disturbed by frequency; otherwise, they would be destroyed and discarded. Thus, we must research it [6]. To improve its reform progress and adaptability, this study considers the intelligent reform of computer technology as well as the reform of electrical and electronic technology. However, they are very challenging since there are several variables, we cannot ensure total success, and obtaining the necessary data requires numerous efforts [7]. due to its high levels of interference, including internal eddy current interference and external magnetic field interference [8]. A magnetic field will frequently create a magnetic field around the periphery when the electricity is being transported, and these magnetic fields will create electricity to impede the work of the original current. This is because the electromagnetic field is not separated, so there will be magnetism where there is electricity and electricity where there is magnetism. Consequently, there is a high frequency of inaccuracies between the initial set of work efficiency and our real job efficiency.

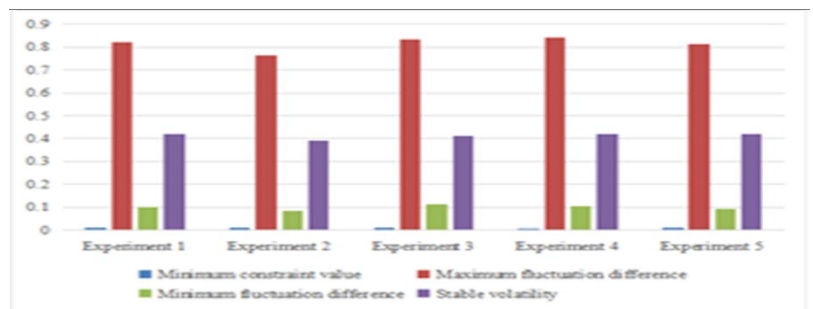
wever, it is very difficult to eradicate [9]. We can only lower the error in a very tiny range to make manageable changes in the experiment since this is the outcome of natural laws, which we cannot disobey. We can conduct electrical and electronic technology research and development more effectively in this manner. To help it better adapt to the goal we have in mind, we must deploy it sensibly. The best option, given the state of technology, is to use artificial intelligence [10].

1 Adaptive parameter DBSCAN clustering algorithm

Generally, in clustering analysis, the mean square integral error function (MISE) is generally selected to optimize the bandwidth. They are defined as follows:

$$MMIMMM(h) = \int (f(x) - \hat{f}(x))^2 dx \quad (1)$$

Under the weak assumption:



experiments. In order to approach the ideal data acquired under artificial intelligence technology, 10 groups of the best experimental data are then chosen. The experimental results are then obtained by comparing the prediction design.

Evaluation results

4.1 Experimental results

Table 1.Comparative analysis of experimental data

	Minimum constraint value	Maximum fluctuation difference	Minimum fluctuation difference	Stable volatility
Experiment 1	0.012	0.822	0.102	0.420
Experiment 2	0.011	0.762	0.086	0.391
Experiment 3	0.012	0.832	0.114	0.411

Experiment 4	0.007	0.841	0.104	0.422
Experiment 5	0.013	0.811	0.092	0.422

$$MMIMMM(h) = AAMIMMM(h) + 0 \left(\frac{R(k)}{nh} + \frac{1}{4} mm_2(KK)^2 h^4 RR(ff) \right) \quad (2)$$

$$AAMIMMM(h) = \frac{R(k)}{nh} + \frac{1}{4} mm_2(KK)^2 h^4 RR(ff) \quad (3)$$

Among them:

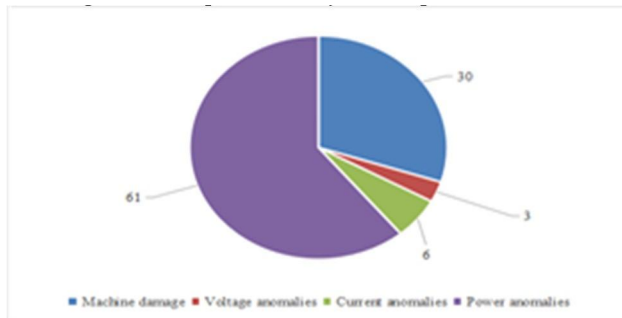
$$f(h) = f(h)^2$$

$$2f(h) = f^2(h)$$

Minimizing MISE (h) is equivalent to minimizing AMISE (h), finding the partial derivative and making the derivative equal to 0:

$$\frac{\partial}{\partial h} AAMIMMM(h) = -\frac{R(k)}{nh^2} + mm_2(KK)^2 h^3 RR(ff) = 0$$

2 Experimental Establishment



election and treatment of experiments

It is quite hard to remove, albeit [9]. Since this is the result of natural laws, which we cannot defy, we can only reduce the mistake in a very small range to make adjustments to the experiment that are manageable. In this way, we may carry out research and development for electrical and electronic technologies more efficiently. We need to use it wisely to make it better fit the objective we have in mind. Given the current level of technology, using artificial intelligence is the best course of action [10].

2.1 Processing of experimental data

Since there is a substantial amount of data that needs to be completed, we get two thousand pairs of data via 20 groups of repeated measurements.

Figure 2. Examination of Unusual Information Since Table 1, Figure 1, and Figure 2 demonstrate that the experiment is rather good, our next step is to reduce the error and get better data representation results.

Electrical engineering

4.2 5. The substantial advances in electronic technology are promoting the current information era, which is based on computer networks. From the earliest artificial to the contemporary intelligent time, it changed every habit in society. Although there are many courses in electrical engineering, the main subjects include electronic technology, circuit concepts, signal and system control, and so forth. Electrical engineering is now developing very rapidly due to the complementary nature of information technology and electrical engineering. Electricity initially facilitated the development of information technology, but as information technology advanced, electrical engineering also advanced and became

more innovative. Additionally, electrical engineering has several tool bases because to the advancement of information technology. For instance, diodes, transistors, integrated circuits, and other devices are created via the interaction of electrical engineering and physical science. In order to improve efficiency, information technology therefore becomes the wise choice for electrical engineering control due to its very high efficiency and control rate. Since electric power is the backbone of contemporary living, its global applicability is also being investigated and improved. As a result, electrical engineering will continue to be one of the most popular fields in society and the field of electricity will continue to grow. Communication and networks, signal processing, electronics and integrated circuits, computer science and engineering system control, photonics and optics, power technology, electromagnetism, microstructures, materials and devices, etc. are just a few of the many subfields that make up electrical engineering, a major first-level discipline. These are the directions that electrical engineering is expected to grow in the future. In comparison to other majors, electrical engineering is typically connected to these directions, so students may make more progress in them and keep learning new things. Industrial control often uses electrical automation. Since machines have gradually supplanted the human manufacturing methods used in contemporary industry, individuals are now primarily responsible for controlling the system and completing the production. Electrical automation is the primary source of the need for machines to operate automatically. Electrical automation is the process of using relays and other components to realize the control, and then through other auxiliary devices to control the internal operation to achieve the purpose of electrical automation. Power supplies are the most fundamental and crucial component of electrical engineering as without them, no equipment can function. The power supply is also divided into many kinds, but all of our tools are pursuing stable and superior power supply, so it can be said that the development of power supply indirectly promotes the development of the whole electrical industry. Power supply from many years ago DC to later AC, and 100000 v into 110 v, 220v, 380v and other different output voltages, the power supply after many years of reform has slowly become more and more stable. However, certain high-precision items need a lot of electricity. It is not appropriate since our industrial power supply often contains certain problems. Therefore, in demanding electronics, we want a frequency-stable voltage. High-precision electronic devices often employ a DC power source since the AC conversion will typically show variation. With the development of computer, the grade is improving and the function is becoming stronger and stronger. The power revolution will further penetrate into various industries and affect the material life of all mankind

4.3 Electrical and electronic technology

The invention of the world's first electronic and digital computer in 1946 is largely responsible for the contemporary electrical and electronic basis. The evolution of computers may be broadly categorized into four stages: 1946–1957, 1958–1964, 1965–1971, and 1972–present. The production of fundamental components is where they diverge most. Electronic tubes are the first generation of building blocks, transistors include the second generation, small and medium-scale integrated circuits comprise the third generation, and building components for large-scale and very large-scale integrated circuits comprise the fourth generation. The founder of computers, Feng Neumann, proposed a generic computer design plan. He asked for three things. First, the computer has five essential functions: memory, input and output equipment, the operator, and the controller. Second, binary numbers are often used by computers to represent data and instructions. Third, the computer automatically runs the weaved program when all data and applications have been placed in memory. Additionally, the future of computer development should be split into two categories: enormous and downsizing, given the advancements in contemporary science and technology. Supercomputers, such as Tianhe 2, Microcomputers are often used to refer to laptops and personal computers. Since microcomputers are the result of large-scale integrated circuits, they were created after the fourth generation of computers. From the initial four digits to 16 to 32, and eventually to the 64 bits we use, along with its integration

from the original 2300 to the current 42 million, significant advancements have also been achieved throughout the years of development. These are the significant advancements in computer technology brought about by the passage of time. Additionally, sharing data on computers will be easier in the future than it is today. Future computers may also be clever, mimic the human mind, and possess human-like logical thinking and study skills as artificial intelligence technology advances.

5 Conclusion

In conclusion, we conclude that there is still more work to be done before electrical and electronic technology is intelligentized at this point after reviewing the pertinent data and doing trials. In order to automate the control of electronics, we can currently only loosely establish the program to allow the computer to obey it. The experimental findings are not optimal, however, due to the many interfering elements, and some data comparison is necessary to weed out the necessary data. Therefore, after a vast number of trials, we may make a general conclusion that the present electrical and electronic technologies. can only depend on a system of protocols for semi-intelligent control; it is not capable of complete intelligence. Perhaps electrical and electronic technologies will become completely intelligent to address our difficulties as artificial intelligence technology advances further.

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