Editorial

Artificial intelligence (AI) in engineering and technology

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Abstract: From traditional civil engineering and aerospace engineering to large portions of electrical, electronics, and computer engineering, and most importantly, the medical and clinical sciences, artificial intelligence (AI) is one of the most critical and useful tools for research. The human brain's ability to interpret sensory data, solve issues, learn from past experiences and tests, store and retrieve data, etc., is where the current discipline starts. In particular, the power sector is on the cusp of inevitable change as a result of numerous restructuring efforts, and the power science community requires artificial intelligence resources for effective planning, operation, and control of the power system. Almost every AI method is logically conceived of as an optimization or decision-making problem. Power utilities can benefit from these AI methods because they provide novel approaches to efficient evaluation, effective management, and astute decision-making. We have learned more about the design process and created higher-quality goods and artifacts thanks in large part to the widespread use of AI techniques and approaches over the past few decades. When these disciplines work together, they produce cutting-edge architectures that can solve a wider range of design problems at once.

Keywords: Artificial intelligence; Soft computing; Machine learning; Optimization; ANN; Fuzzy logic control; Adaptive mosquito blood search algorithm

Introduction

AI has stood out as a key theme in science fiction throughout the decades. Since the birth of computers, physicists and various other intellectuals have been perplexed by the prospect of creating a machine that can mimic the human brain. The model of the human brain should be viewed as analogous to a highly efficient computer. We can't deny that the situation would be significantly more complicated than a basic computer can handle. There is still a lot of conjecture as to whether or not consciousness can be separated from high levels of intellect, and scientists are far from having a complete understanding of how cognition develops in the human brain. However, AI does not have to be as complex; in fact, we routinely encounter artificial intelligence in its simplest form. These AIs are already embedded into alarm clocks and speakers to operate a variety of smart gadgets throughout the home, and the fact that Android phones come pre-installed on all modern smartphones is merely another clue. There have been increasing assurances that advancements in AI will allow us to build machines capable of performing increasingly sophisticated manufacturing and design tasks. The ultimate goal is self-sustaining, intelligent machines, although doing so would need careful planning and consideration of many factors. In addition, we are learning more about how our brains function and how we manage the learning process, both consciously and unconsciously, in our drive to construct ever more powerful AIs.

The word was coined at a meeting held at Dartmouth in 1956. While the notion of artificial intelligence has been discussed at length for decades, its practical application in consumer electronics has only recently begun to take off. It is easy to forget that the everyday technology we rely on is a complex demonstration of engineering skills and an understanding of artificial intelligence.

Artificial intelligence utilized in the IT industry combines software with physical hardware. Think about the robots and the software that controls them in a car production line. They're technically remarkable, but how intelligent are they?

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Discovering how smart and sophisticated our technological applications of artificial intelligence have gotten may surprise you. The use of high-tech, intelligent assembly lines is on the rise. But what exactly is artificial intelligence revolutionizing the IT industry?

When applied to the discipline of engineering, artificial intelligence provides access to a wealth of fresh information. These new commercial possibilities should be enthusiastically embraced. It's crucial to keep in mind that most of these developments will significantly improve our capacity to address the most pressing challenges facing our civilization. Artificial intelligence is increasingly being used in manufacturing and other production settings. The stock market increasingly utilizes artificial intelligence (AI) for high-frequency trading. Now that AIs are ubiquitous, it can be easy to underestimate their complexity. Engineers can benefit greatly from using AIs. Machine learning, natural language processing, image processing, the internet ofthings, adaptive neuro-fuzzy inference systems, fuzzy adaptive Kalman filters, fuzzy logic controllers, adaptive blanket body cover search algorithms, adaptive mosquito blood search algorithms, adaptive spider net search algorithms, adaptive lizard algorithms, and particle swarm optimization are some of the most exciting current and future uses better usage and future development of AI approaches necessitate familiarizing academics and researchers with AI and its diverse applications.

Conflict of Interest

The authors declare no conflict of interest.

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