BYTE QUEST

Vasavi College of Engineering

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Contents:

Byte Quest is the article published by the CSE dept of Vasavi College of Engineering regarding the latest innovative Technologies and Software that have been emerged in the competitive world. The motto of this article is to update the people regarding the improvement in technology. The article is designed by the active participation of students under the guidance of faculty coordinators.

 Good, bad or indifferent if you are not investing in new technology, you are going to be left behind.

-Philip Green

 Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

-Stewart Brand

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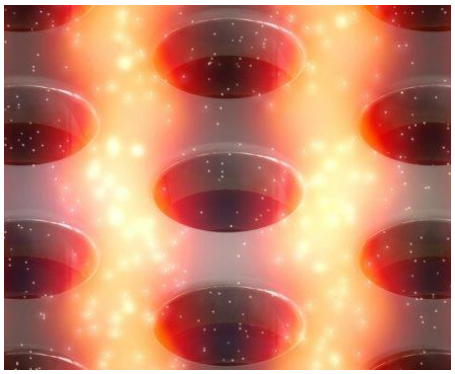
COGNITIVE TECHNOLOGY

Cognitive technology is a field of computer science that mimics functions of the human brain through various means, including natural Language processing, data mining and pattern recognition. It is expected to have a drastic effect on the way that humans interact with technology in coming years, particularly in the fields of automation, machine learning and information technology. Cognitive technologies extend the power of information technology to tasks traditionally performed by humans, they can enable organizations to break prevailing trade-offs between speed, cost, and quality. One notable innovation that has become emblematic of cognitive technology is IBM's Watson supercomputer, which has a processing rate of 80 teraflops that it uses to essentially "think" as (or better than) a human brain.Cognitive technology has also been applied in the business sector,perhaps most famously with the streaming media service Netflix, which uses it to generate user recommendations which largely contributed to the company's success.

ADARSH K (CSE-B 2/4)

MACHINE LEARNING HELPS IMPROVE PHOTONIC APPLICATION



Quantum dots on nanostructures: The photonic nanostructures examined in this paper consist of a silicon layer with a regular hole pattern coated with what are referred to as quantum dots made of lead sulphide. Excited with a laser, the quantum dots close to local field amplifications emit much more light than on unordered surface. This makes it possible to empirically demonstrate how the laser light interacts with nanostructure

Ten different patterns discovered by machine learning: In order to systematically record what happens when individual parameters of the nanostructure change, Barth calculates the three-dimensional electric field distribution for each parameter set using software developed at the Zuse Institute Berlin. Barth then had these enormous amounts of data analyzed by other computer programs based on machine learning. "The computer has searched through the approximately 45,000 data records and grouped them into about ten different patterns," he explains. Finally, Barth and Becker succeeded in identifying three basic patterns among them in which the fields are amplified in various specific areas of the nanoholes.

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SCREENLESS DISPLAY

Screen less display is an interactive projection technology developed to transmit any data without the help of screens. Space constraint, portability issues associated with screen displays and need for privacy can be the need for screen less displays. It is divided into three main categories:

- Visual Image Display- It is a type of screen less display which recognizes any type of data with the help of human eye. It includes Holographic display, Virtual reality goggles, Heads up display, etc. The working principle behind this, states that the light gets reflected by the intermediate object (holograms, LCD's) before reaching the retina. A 3D image will be projected and appears to be floating in the air whenever the laser and the object beam overlap.

- Retinal Display- As the name itself indicates, it is the display of image directly onto the retina. There is no intermediate object. The user can sense the display moving freely in the space.
- Synaptic Interface-This means sending information directly to human brain without using any light. The brain computer interface allows direct interaction between the human brain and external devices such as computer. Screen less display is used in:
- Medical holography and in manufacture of mobile phones for visually impaired. Screen less display provides more accurate colours, higher resolution images. It requires low power. Its' total market value is expected to reach USD 1,242.3 Million by 2020.

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