BYTE QUEST

Vasavi College of Engineering

Department of Computer Science and Engineering

September 15, 2018
Volume 59

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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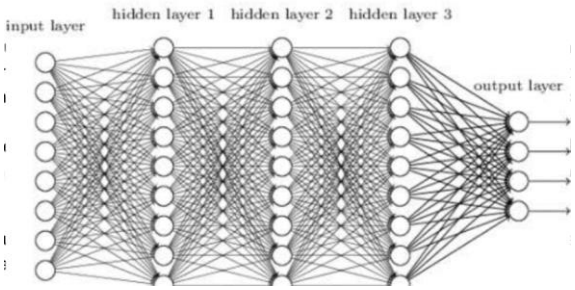
DEEP NEURAL NETWORK

Deep Learning is a subfield of machine learning concerned with algorithms inspired by the structure and function of the brain called artificial neural networks. It is a machine learning technique that teaches computers to do what comes naturally to humans: learn by example. Deep learning is a key technology behind driverless cars, enabling them to recognize a stop sign, or to distinguish a pedestrian from a lamppost. It is the key to voice control in consumer devices like phones, tablets, TVs, and hands-free speakers. It's achieving results that were not possible before. The term "deep" usually refers to the number of hidden layers in the neural network. Traditional neural networks only contain 2-3 hidden layers, while deep networks can have as many as 150. Here, a computer learns to perform classification tasks directly from images, text or sound.



Deep learning applications are used in industries from automated driving to medical devices. Automotive researchers are using deep learning to automatically detect objects such as stop signs, traffic lights, detect pedestrians, which helps decrease accidents. Deep learning is used to identify objects from satellites that locate areas of interest, and identify safe or unsafe zones for troops.

T. AISHWARYA (CSE-B 3/4)

SOFT COMPUTING

Recently new technique is available for computation known as Soft computing which is based on natural as well as artificial ideas. Soft Computing techniques are Fuzzy Logic, Neural Network, Support Vector Machines, Evolutionary Computation and Machine Learning and Probabilistic Reasoning. The complementarily of FL, NC, GC, and PR has an important consequence: in many cases a problem can be solved most effectively by using FL, NC, GC and PR in combination rather than exclusively. A striking example of a particularly effective combination is what has come to be known as neurofuzzy systems. Such systems are becoming increasingly visible as consumer products ranging from air conditioners and washing machines to photocopiers and camcorders. What is significant is that in both consumer products and industrial systems, the employment of soft computing techniques leads to systems which have high MIQ (Machine Intelligence Quotient). In large measure, it is the high MIQ of SC based systems that accounts for the rapid growth in the number and variety of applications of soft computing. It represents a significant paradigm shift in the aims of computing, which reflects the fact that the human mind, unlike present day computers, possesses a remarkable ability to store and process information which is pervasively imprecise, uncertain and lacking in categoricity. Some applications are handwriting recognition, image processing and data compression, process control etc.

ATISHYA (CSE-B 3/4)

APPLE'S WATCH ECG FEATURE

At its event in September, Apple announced a new ECG feature that enabled users to take an electrocardiogram of their heart and notify them of any irregular heartbeat. The feature was exclusive to the Apple Watch Series 4.The ECG app finally arrived with the watch OS 5.1.2 update, and users obviously were quick to test it out and see if their heart was functioning normally or not.

After getting the ECG app update, one Reddit user, like many others, took an ECG to see his heart rate result. To his surprise, his result came back with an AFib. A trial fibrillation (AFib) is a term used for irregular heartbeat that can lead to blood clots, stroke, heart failure and other heart-related complications. If detected early, these users are put onto medication and other pre-emptive measures to prevent further complications.

The result was the same after taking multiple tests, and he even tried the same on his wife's wrist but it brought back normal results. After several rounds of testing, the Reddit user decided to walk into a clinic where he showed his results to them. He was quickly rushed ahead of the queue, where another ECG was then taken, which also brought back an AFib result. The user then headed straight to the cardiologist where his A-Fib was again confirmed, and an ultrasound was taken, and future visits were determined for proper treatment.

Once you're ready to take a reading with your Apple Watch, hold down a finger on the digital crown for 30 seconds. After that you'll get a result, and you can store it in the health app on the phone or share it in a PDF file with a doctor. You can also add a symptom to the reading, like shortness of breath or dizziness. breath or dizziness.

The Apple Watch is first ECG device with FDA clearance for consumers. It gives people access to important heart health data without having to see a doctor first. It's not going to replace actually going to the doctor – the basic ECG can't detect all the conditions a medical-grade one can – but it's still a remarkable feature. Afib affects 2 to 3 percent of Europeans and North Americans, considering how many Americans avoid going to the doctor in the first place due to high costs.

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