ARTIFICIAL INTELLIGENCE AND HEALTH IN NEPAL

The capacity of computers and information technology has grown, making it possible to handle far larger amounts of data than even a decade ago. The use of big data and artificial intelligence has started a technological revolution (AI).

There is much more to AI than what many readers might first imagine. For example, consider robotic surgery or self-driving cars.

AI

AI can be divided into two categories: strong and weak.

Strong AI

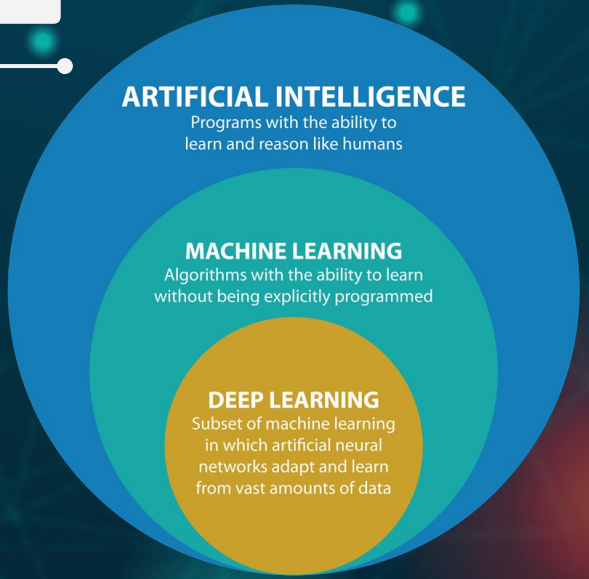
The goal of strong AI is to create systems that truly think and carry out tasks like people do.

Weak AI

Weak AI attempts to make systems operate without understanding how human reasoning functions.

ML

Machine learning (ML) is important and applicable to all branches. ML is a branch of AI that looks into the processes involved in knowledge acquisition through experience-based learning. ML focuses on creating algorithms and systems that learn from data, to put it another way. Such learning algorithms create a model from sample data that will be applied to decisions made using facing from the same data source in the future.



DEEP LEARNING

A type of machine learning (ML) techniques called "deep learning" depends heavily on neural networks and representation learning.

The neural networks in the brain are a major source of inspiration for artificial neural networks. The organization of these networks consists of layers of neurons connected by weighted linkages (synapses). Therefore, the network will be deeper the more levels there are. Each layer modifies its input before creating an output that is passed on to the following layer.

BIG DATA

Finally, the term "Big Data" refers to huge amounts of information that are challenging to analyze regularly. The five Vs—

Volume (big), Velocity (rapid and continuous expansion), Variety (structured and unstructured formats), Veracity (quality), and Value—define Big Data according to its normative definition (usefulness). The idea behind big data analytics is to learn from massive (enormous) data sets and to discover new information and draw conclusions.

AI in Health Care

AI gives the field of epidemiology (medicine) a new dynamic.

Large data sets are frequently used in epidemiology to examine the relative impact of many variables on a patient group or community or to determine the prevalence and incidence of (rare) diseases.

AI in Health Care

AI and its sub-fields have touched healthcare in many ways from diagnoses, evaluation, to treatment and planning of care. For example, Abujaber and colleagues developed a machine learning (ML) method that predicts how long a patient will need to undergo PMV after suffering a traumatic brain injury (TBI), allowing doctors to design more appropriate individual care plans and make an earlier decision on whether to perform a breathing tube, which is an important factor in patient outcome.

AI in Health Care

This technology revolution has the potential to have a significant impact on low-income countries such as Nepal. Especially if AI offers low-cost solutions that would otherwise be extremely expensive for the majority of people in a low-income country. We intend to showcase some examples of AI progress that can be applied in Nepal.

AI in Health Care

Birth asphyxia is one of the leading causes of newborn mortality globally, with arterial blood gas analysis serving as the confirming clinical diagnosis. However, this is a sometimes incredibly expensive and unavailable technique in low- and middle-income nations, resulting in a large number of new-born asphyxia deaths due to delayed diagnosis after visual signs appear. A significant delay in recognizing and treating asphyxia may result in severe brain damage.

AI in Health Care

Ubenwa, a mobile phone app is being developed and tested in Nigeria which provides a machine learning algorithm (support vector classifier) which classifies new-born cries to identify asphyxia, this diagnostic tool provides the diagnosis with 20 seconds and allows an earlier intervention with only the requirement of a mobile phone, a tool rapidly growing in circulation within low income countries

THANKS!

Do you have any questions?

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