

Virtual Brain-Blue Brain

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Abstract: Scientists today are carrying out research to create an artificial brain that can think, respond, take decisions and store information with an aim to upload a human brain into the computer in order to make it thinkable and to make decisions without the presence of a human body, wherein after death, this virtual brain can act as the man. So, even after the death of a person, we will not lose the knowledge, intelligence, emotions, and memories of a person and this can be used for various situations on doing something based on his/her area of expertise etc. The human brain is a complex system containing recursive connectors. It is more complex than any other circuit in the world it's a multi-level system with 100 billion neurons (nerve cells) and 100 trillion synapses (communicators). A neuron is a cell designed to transmit information to other nerve cells, muscle, or gland cells whereas synapses help neurons to communicate with each other.

Introduction

The world of technology has expanded in areas like humanoid robots, computing, virtual reality, wearable devices, Artificial Intelligence, Digital jewelry, Blue Eyes Technology, BrainGate Technology as such at a much more rapid rate. A full human brain simulation (100 billion neurons) is planned to be completed in the early years and if everything goes well then this would be the first virtual brain of the world.

Virtual Brain (BLUE BRAIN)

A virtual brain is known as an artificial brain which can think like the natural brain, take decisions based on the past experience, and respond to the external stimulus.

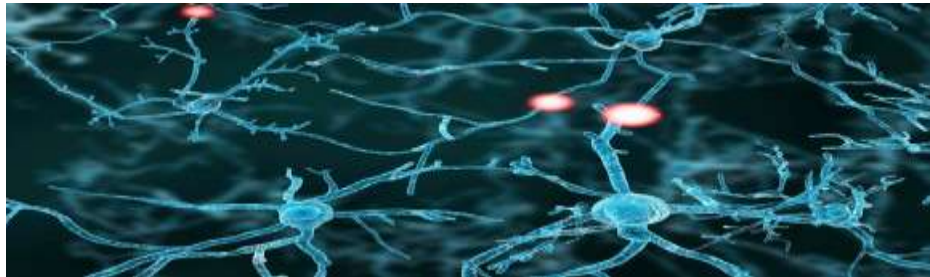
By using supercomputers, with a huge amount of storage capacity, processing speed and an interface between the human brain and this artificial brain it is possible to create a virtual brain. Through this interface, the data stored in the natural brain can be uploaded into the computer. So the brain and the knowledge, intelligence of anyone can be preserved and used forever, even after the death of the person. Intelligence leads to development it's an inborn quality that cannot be created. Today we are developed because of our intelligence. Some people with their intelligence think and reach to such an extent where others cannot reach. Human society would always be in need of such intelligence. But the intelligence is lost along with the person after his death.

Virtual brain is a solution to it. The brain and its intelligence can be alive even after death. We often face difficulties in remembering things such as people's names, their birthdays, and the spellings of words, proper grammar, important dates, history facts, and etc. A virtual brain can take away the extra stress we all face to remember things. It is a perfect technical solution to a very common human problem.

Working of a natural brain:

The human ability to feel, interpret and even see is controlled by the nervous system. The nervous system working through electric impulses through our body. The human brain is a multi-level complex system with 100 billion neurons and 100 trillion synapses. To understand this system, we have three simple functions.

1. **Sensory input:** When our eyes see something or when our hands touch a warm surface, the sensory cells, known as Neurons, send a message straight to our brain. This is called sensory input because we are sending things into our brain by way of senses.
2. **Integration:** Integration is known as the interpretation of things like taste, touch, and sense which is possible because of our sensory cells, known as neurons. Billions of neurons work together to understand the change around us.
3. **Motor Output:** Once our brain understands the change, either by touching, tasting or through any other medium, and then sends a message through neurons to cells, muscles or gland cells, which actually work to perform our requests and act upon our environment. The word motor output is easily remembered if one should think that our sending something out into the environment through the use of a motor, like a muscle which does the work for our body.



Copying of data from the brain to the computer

The uploading is possible by the use of small robots known as the Nanobots. These nanobots are small enough to travel throughout our circulatory system. Traveling into the spine and brain, they will be able to monitor the activity and structure of our central nervous system. They will be able to provide an interface with computers. They also carefully scan the structure of our brain, thus providing a complete readout of the connections. This information, when entered into a computer, could then continue to function as us. Thus, the entire data in the brain will be uploaded into the computer.

Advantages:

1. Even after the death of a person his intelligence can be used.
2. It boosts the study of animal behavior which means by the interpretation of the electric impulses from the brain of the animals, their thought process can be understood easily.
3. It helps the deaf to hear via direct nerve stimulation.
4. Also be helpful for the diagnosis of psychological diseases.
5. Treatment of mental disorders can be achieved by making use of the information of the brain that was uploaded into the computer and using it to provide a solution.

Disadvantages:

1. Increases the dependency on computer systems.
2. Computer viruses will pose an increasingly critical threat.
3. Data could be manipulated and used in wrong way.
4. This may lead to human cloning which could be a biggest crime against nature.

Conclusion:

The blue brain project, if implemented successfully, would indeed change many things around us and it will boost the area of research and technology. Certain research and development take decades or even centuries to complete, so the knowledge and efforts of a scientist can be preserved and used further in his absence. At the same time, it is not an easy task to replicate the convoluted brain system into a computer. It may take several years to decades to accomplish this.

References:

1. www.seminaronly.com › Labels › Blue-Brain-Technology
2. krazytech.com/technical-papers/computer-science
4. www.slideshare.net ›
6. studymafia.org ›