Artificial Instructions for Human Brain

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Abstract

Objectives: This paper discusses about the importance of the effective intelligence among human and artificial devices. Nowadays more and more human activities will be carried by artificial agents and devices, which overcome our imagination. Methods: This paper gives a theoretical application to develop the personality of mentally challenged person by feeding Artificial Instructions into their brain by using the fMRI (functional Magnetic Resonance Imaging) concept in the reverse manner which is used in the mind reading system. Findings: The instructions will get fed into the brain by means of computer system and then it passes to the Temporal lobes of the human brain. Temporal lobes were used to speak, make decision, think and analyse. The instructions will get decoded into brain instruction by the different signals of the fMRI. Applications/Improvements: This work may bring changes in the life of mentally challenged ones and accidental victims.

Keywords: Artificial Instructions, fMRI Technology, Functional Imaging, Human Brain

1. Introduction

Brain is the main processor for humans. All the activities and thoughts of the human will carry by the instructions of their brain. Compare with animals such as monkeys, chimpanzee human has advanced thinking ability. Much of these expansion comes from the cerebral cortex, especially the frontal lobes, which are associated with executive functions such as Planning, Reasoning, and Abstract thought. This is greatly enlarged in human. The human brain has interface with all the other parts in the human body such as eyes, ears etc. For eyes, every images will capture and those logical images are send by the eyes to brain. Similarly, the ears will hear the audio and convert the audio into signals and send them to brain. Then the brain takes decisions related to those signals. Finally these signals and images will be stored in the memory.

But for some people their brain’s IQ level is too low while comparing with other people’s brain. For them the brain is not supposed to give perfect instructions when the human needs. Improper activities of the brain make the human to act abnormal. These people were called or defined as mentally challenged persons. They don’t know how to act and behave with others and become dependent on others¹.

According to the researchers, the logical thinking of the human may change to normal English words. They invented a Brain reading system which is typing the human thoughts into Alphabets². Their brain typing system uses functional Magnetic Resonance Imaging (fMRI) to analyze the hemodynamic responses in the brain—the movement of blood inside our gray matter. These responses are caused by mental images that get tied to each letter of the alphabet using computer analysis algorithms.

Once the computer is up and running, the patient can freely type letters, one after the other, using their brain. Each alphabet letter corresponds to one of 27 “reliable and differentiable single-trial fMRI signals” and those signals will convert in to digital signals shown in Figure 1²,³.

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It takes robot vision programs about 100 computer instructions to derive single edge or motion detections from comparable video images. 100 million instructions are needed to do a million detections, and 1,000 MIPS to repeat them ten times per second to match the retina.

Functional connectivity was measured from Resting state fMRI (R-fMRI) data has been widely used to examine the brain's operational activities and has been recently used to characterize and differentiate brain activities. The functions of the brain are categorized into two viz., Static Transition Patterns and Dynamic Transition Patterns.

The regular and repeated activities of a human that settles into his/her brain, which is measured over by the fMRI technology called Resting state fMRI (R-fMRI), i.e., static transition patterns. The dynamical transition patterns of the brain's operational states have been less explored. The computational framework to measure the computerized brain state dynamics via Hidden Markov Models (HMMs).

This fMRI technology is used to capture the temporary activities and occasional operations occur in human's life.

This paper describes that a computerized brain will help those mentally challenged people to recover from their shortcomings.

2. Architecture

The sound or an image and even a touch are passed as instructions that will be passed as signals to the area called temporal lobe and it is shown in Figure 2.

- **Frontal Lobe:** Associated with planning, parts of speech, movement, emotions, reasoning, and problem solving.
- **Parietal Lobe:** Associated with movement, orientation, recognition, perception of stimuli.
- **Occipital Lobe:** Associated with visual processing.
- **Temporal Lobe:** Associated with stimuli, memory, and speech, perception and recognition of auditory. All the other lobes will capture the signals from the temporal lobe via blood circulation movement.

![Figure 1. Functional Magnetic Resonance Imaging](image)

![Figure 2. Lobes of the Cerebral Cortex](image)

3. Algorithm

The below algorithm representation of instruction passing in to the brain.

```java
Instruction passing ()
{
  //signal detection part. Detecting the signal send to the brain.
  At each scan for fMRI signal IF (tracking signal is detected)
  {
    //Send”signal detection “message to observer;
    While (blood movement is being moving)
    {
      Capture the letter in the word;
      Match the word in the sentence;
      Analyze the meaning of the sentence;
    }
    Done
  }
  Else
  {
    //failure
  }
}
```

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4. Methodology

Instruction passing methodology is shown in Figure 3. The methodology tells that computer instructions can instruct the human who is mentally challenged. Once the computer is up running, the instructions of computer will get passed to the brain. Each alphabet letter corresponds to one of 27 “reliable and differentiable single-trial fMRI signals” and each digital signals is converted into brain signals. Atlast the machine signal is get stored into the brain.

![Figure 3](image)

**Figure 3.** Artificial Instructions Transmitted in to Brain Signals

The instructions will get feed in to the brain will be defined within the following system:

- First the instructions will be sent to the brain by using computer.
- Instructions will get stored into the chip by the use of computer.
- This chip will fix onto the human body and then the instruction will be transferred to brain.
- Here the FMRI is to covert those instructions into brain thinking.
- It takes a single letter and matched to its 27 different types of signals.
- Then it frames the word one by one in the sentence.
- Finally it get to frame all the words and form the sentence and that instruction will get stored in the brain.

Each and every sentence will get framed one by one and stored into the brain.

5. Results and Discussions

5.1 Before Implementation

Thinking and physical ability of the mentally disordered people is shown in the Figure 4. Their thinking ability will not be much enhanced as normal people. But these people can act better with the assistance of external instructions.

![Figure 4](image)

**Figure 4.** Mentally challenged Person’s Personality

5.2 After Implementation

The performance of the people after feed of the computer instruction into brain is shown in the Figure 5. The Implementation of the system will generate several advantages to the mental patients. After the implementation, the mental people’s thinking ability will increase a little as normal people and there is a chance to make them think in correct manner. The decision making ability will also get increased. Their performance gets changed after the mentally challenged people’s thinking shown in Figure 5.

![Figure 5](image)

**Figure 5.** Mentally challenged Person’s Ability after Invention
6. Conclusion

Mental problem is a very challenge one in a real time world. Artificial Instructions will be a tool for such people to respond better especially in their life style. The mentally challenged people may be less dependent on others after such intervention. The invention of artificial instructions into human brain may create a lot of benefits to the society. The future work will be for improving the personality of mentally ill patients by applying the instruction passing algorithm and fixing neuron chip as a storage and transmitter device.

7. References

1. Tan D, Nijholt A. Brain-Computer Interfaces and Human-Computer Interaction. Human-Computer Interaction Series. London: Springer-Verlag; 2010. p. 3-19.
2. Brigitte D, Raines GB, Sorger JR. Mind reading system. International Journal of Computer Applications Technology and Research. 2014; 3(8):505-9.
3. Minsky M. The Emotion Machine: Commonsense Thinking, Artificial Intelligence and the Future of the Human Mind. New York: Simon and Schuster; 2007.
4. A computational model of mind-reading. 2015. Available from: https://www.cl.cam.ac.uk/research/rainbow/emotions/mrm.html
5. Moravec H. When will computer hardware match the human brain? Journal of Evolution and Technology. 1998; 1(2):1-12.
6. Mind reading system. 2015. Available from: http://gizmodo.com/5922208/scientists-invent-mind-reading-system-that-lets-you-type-with-your-brain
7. Lobes of the Cerebral Cortex. 2015. Available from: http://www.appropsychology.com/Book/Biological/cerebral_cortex.html
8. Harini R, Chandrasekar C. Efficient sequential pattern matching algorithm for classified brain image. Indian Journal of Science and Technology. 2015 Jul; 8(14):1-10.
9. Bhatia M, Bansal A, Yadav D, Gupta P. Proposed algorithm to blotch grey matter from tumored and non tumored brain MRI images. Indian Journal of Science and Technology. 2015 Aug; 8(17):1-10.
10. Sasirekha N, Kashwan KR. Improved segmentation of MRI brain images by denoising and contrast enhancement. Indian Journal of Science and Technology. 2015 Sep; 8(22):1-7.