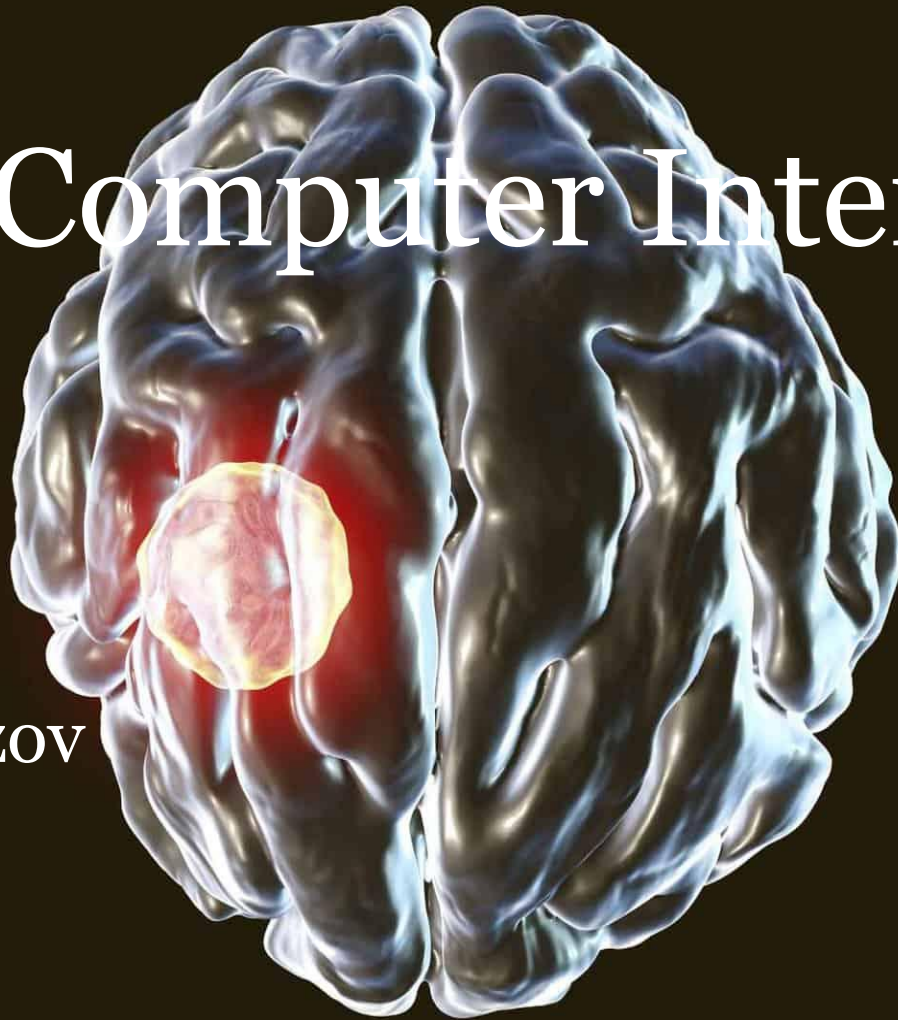


Brain-Computer Interface

By viktor oblezov



Overview

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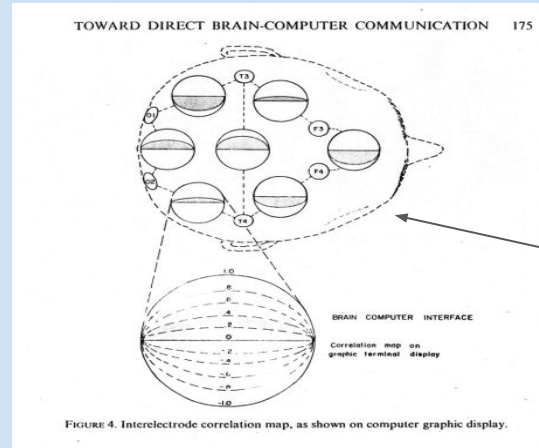
What is the BCI or Brain-Computer Interface?

The BCI is a device that makes a connection between the brain's electrical activity and an external device like a robotic arm. Researchers are mainly looking to use it to repair human sensory-motor functions.

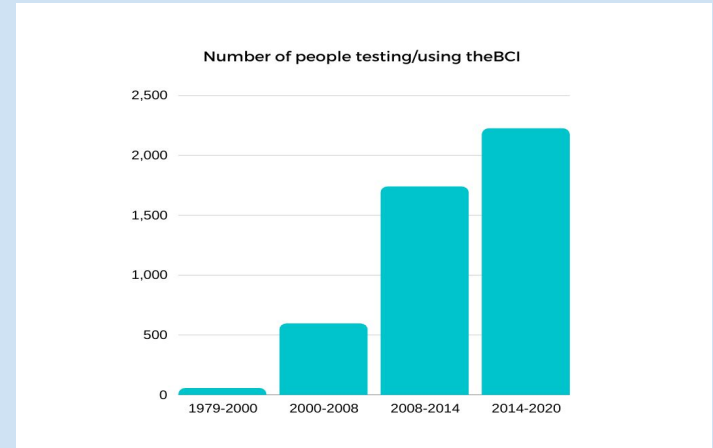


History

A man named Jacques Vidal in the early 70s started research on the BCI at the university of california. In 1973 Jacques released a paper that showed a basic diagram of the BCI. Further research in the 90s lead to the first experiments of neuroprosthetics on animals. The experiments on animals were successful. This made it possible for humans to start testing. After many experiments the BCI was found to be successful. The BCI is now being used for many things nowadays but its main use is more focused towards people who are paralyzed. Something to keep in mind tho, is researchers are still looking for others way to implement the BCI.



The diagram



Plan and implementation

Like I said on the last slides the BCI will be mainly used to give people who have disabilities a chance to get or get back their sensory-motor movement. For example people who are paraplegic or have lost a arm can get robotic arm.

Pros

- It can give people back their sensory-motor movement back
- It can be used to fix people with diseases that don't respond to medication

Cons

- Some people think its unethical and it could be used for bad
- Long-term effects to the user remain largely unknown.
- Sleep interference
- Chance of personality change caused by deep-brain stimulation
- Very expensive \$5000-10,000

Summary

Overall the BCI the bci is an amazing technologie that can be used to helped people with disabilities. This is extraordinaire but the downside of being very expensive is extremely discouraging for people that could just get a regular prosthetic and pay a lot less. Overall i am for the creation BCI but until it is more refined and cheaper it isn't very useful for non wealthy people.

Sources

Ethical issues

Future of the BCI

"Enhancing Nervous System Recovery
through Neurobiologix, Neural Interface
Training, and Neurorehabilitation"

Using the bci to Control prosthetics

General explanation of what the
BCI is