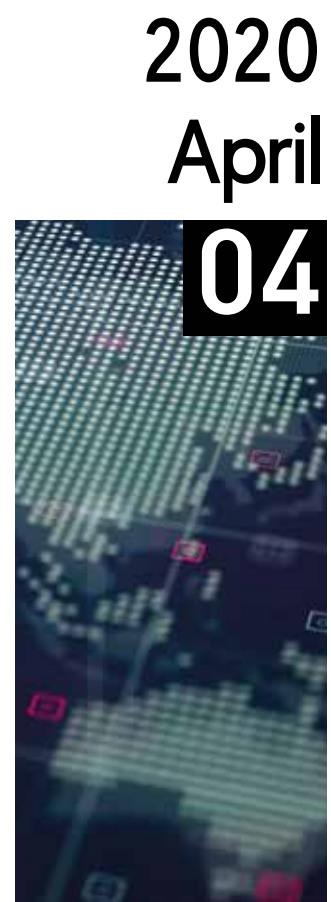


# Barun ICT Global News

Global Student Reporter & Researcher

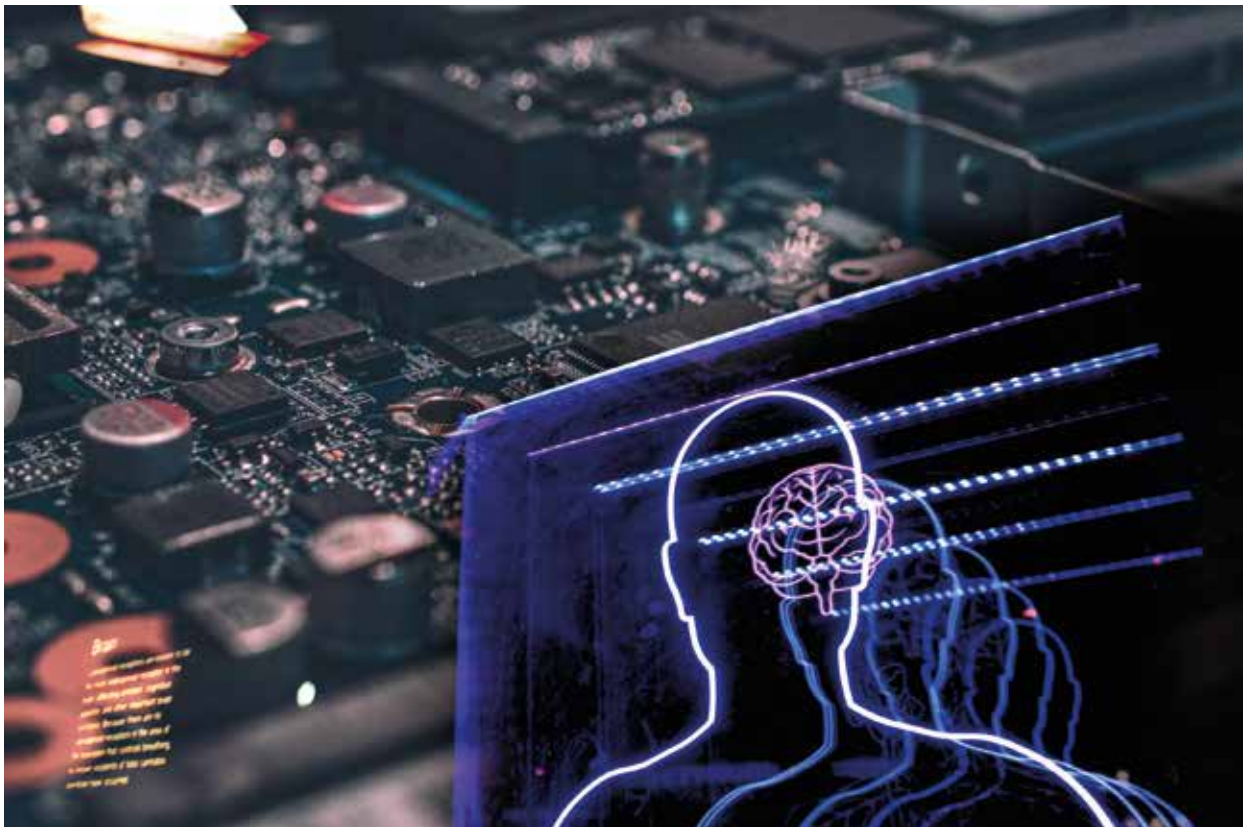
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## ***Potential Confluence of ICTs and Neuroscience: Aumented Ethical Problems***



Ethical issues related to ICT currently generate a whole spectrum of difficult problems. However, the potential confluence of ICT with the development of neuroscience promise to open an even more complex field of ethical issues. In fact, this confluence is still speculative; however, there are several elements that specifically anticipate this possibility as well as the problems it will bring [1].

Electroencephalography records the electrical activity of the brain by measuring the brain's electrical impulses through a series of computers. For example, if a subject thinks of words such as 'spoon' or 'phone', electroencephalography can be used to read the words directly from the brain. It can also identify mood or an image imagined by the subject when presented with the word 'cloud'. Wireless visual prosthesis for the blind uses this technology to provide a series of unusual skills.

By using a million electrodes, it allows the subject to connect a network that could stimulate up to 200,000 neurons. There is also technology that helps people with paralysis to control the expression and movements of a machine, or to see and hear, only with their brains. These milestones all point to the final concrete possibility of connecting us directly with the machines, and also perhaps to the possibility of improving ourselves through artificial intelligence.



However, some of these technologies are already ten years old, and since then, huge sums of money have been invested in large private and government research projects. Currently, many companies have already developed devices in order to record the brain activity of users and convert them into “neurodata” in order to mentally control drones and cars, or measure the level of concentration or stress

of workers. In addition, Facebook has invested heavily in a company that researches how to communicate with computers using the brain. Microsoft has put another impressive sum of money in the artificial intelligence initiative of Elon Musk, which in turn invests in Neuralink, a company that will implant fine threads in the brains of its users to increase their skills. It is rumored that Google is making similar efforts that are not public. These facts suggest that in the long term, it is intended that implants can become part of the field of elective and consumer surgery for those who want to enhance their brain with the power of a computer. Some argue that technology companies are investing because they think the new “iPhone” is going to be a non-invasive brain-computer interface, and they do not want to be left behind. In any case, the most imminent dangers of these potential developments seem to be the loss of mental privacy, related to the accumulation, decipherment, commercialization, and management of the so-called “neurodata”. Furthermore, there are ethical problems derived from the possibilities of improving the human being through neurotechnology. Faced with this situation, a group of specialists called Morningside [2] has launched its call in favor of what they call “neural rights”, which emerge from this confluence of ICT and neuroscience.

The Morningside initiative is based on a regulation that has two approaches. One approach is professional self-regulation, with a deontological oath of specialists dedicated to these technologies that unite ICTs and neuroscience. The other is a series of rights of the users:



1- To personal identity. To protect since by connecting the brains to computers the identity of people could be diluted: if the algorithms would help to make decisions, the singularity of the individuals could be blurred, in addition the technical reproducibility of the neurodata and “neuroexperiences” also potentially work in this sense.

2- To free will. When we connect with external tools that could directly interfere with our thoughts and decision processes, the human capacity to decide the future can be put in question.



3- To mental privacy. Neurotechnology tools that interact with brains will have the capacity to gather all kinds of information about subjects in the most private possible environment: thoughts. It is appropriate to preserve the inviolability of the “neurodata” generated by human brains.

4- To equitable access to augmentation technologies. If neurotechnologies will bring innumerable benefits for humans, it is necessary that they do not multiply the inequalities and privileges of the few who could access these new human capabilities.

5- To protection against bias and discrimination. There are numerous cases of programs and algorithms that multiply prejudices and biases, in the case of the confluence of ICTs and neurosciences, such problems would find a space where they can do even more damage.

This effort to institute these new rights and to face in advance the ethical problems to arise is praiseworthy; in this way, regulation and new rights can take part directly in the research and development process the emerging field of neuro ICT.

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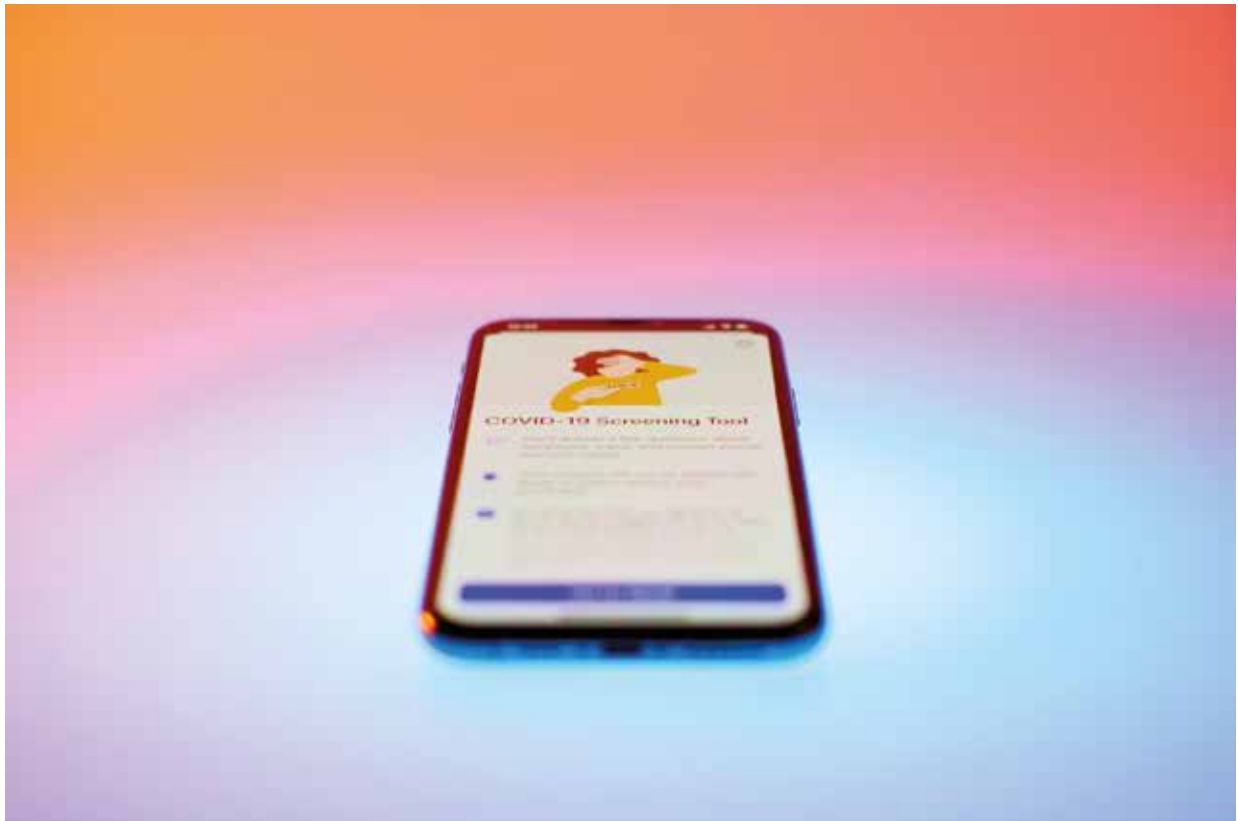
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## *AI and the Coronavirus*

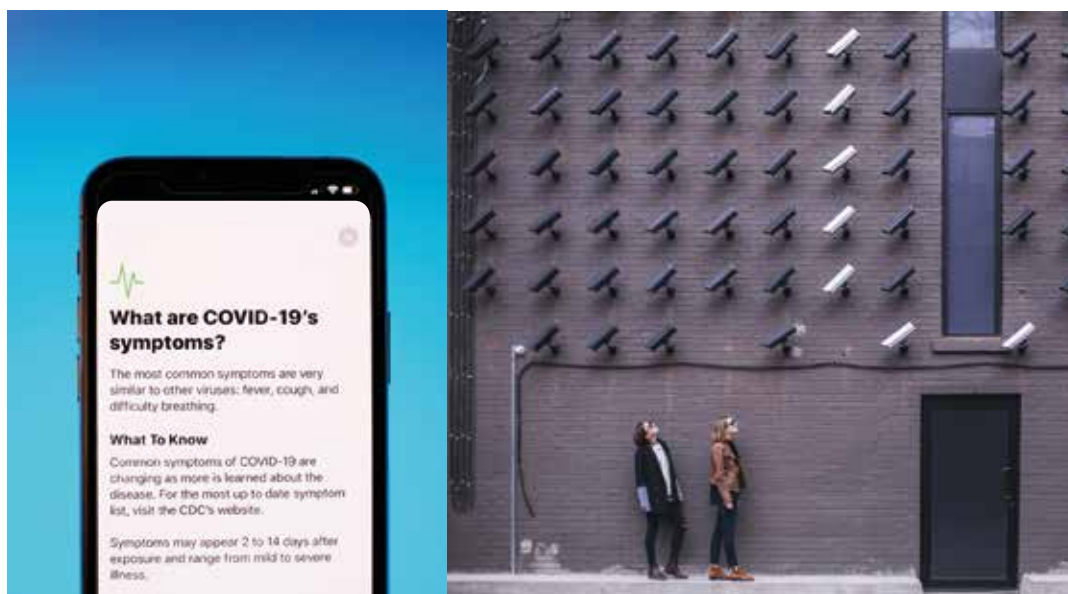


With the rapid increase of coronavirus infection worldwide, AI comes into play in order to fight against the virus. According to a WHO report, big data and AI are being used in China's response to the coronavirus. AI and big data technologies have improved human lives and have become an inevitable part in our lives.

Combining AI technology with machines can help people do a variety of things to combat the virus. For instance, Shangtang Technology Co., Ltd. Organized a research and development team to improve the ability of face recognition algorithms.

The company has integrated the “artificial intelligence epidemic prevention solution,” which integrates face recognition and thermal imaging to create an intelligent temperature measurement technology, which can measure body temperature and recognize everyone’s identity despite people wearing masks. By installing this kind of technology at security checkpoints and community entrances and exits, it can effectively track each individual’s temperature and identity. Furthermore, the government decided to improve identification ability for the sake of inaccuracy caused by the masks.

However, most are concerned that their personal data might be exposed to the public. One of the methods the South Korean government has been handling the pandemic is by publicly revealing every patient’s routes and area so that people can check whether they were in the vicinity of the patients or not. Some people complained that their privacy was exposed to the public, but in order to overcome and get through this pandemic altogether, there is always a trade-off. I believe in the upcoming years, companies and the government will further improve protection of personal information.



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## *Virtual Reality's Future for Occupational Training*



Currently in Middlesex University in London, the use of Virtual Reality (VR) headsets from Oxford Medical Simulation to re-create real-life simulations for nursing students to practice and develop their confidence is underway. With the power of an immersive world around them, students are able to practice without any real repercussions from mistakes they may make due to their inexperience. The development of VR creates more potential scenarios to create a diverse experience in various fields for those in training.

Creation of a personalized feedback system and evaluation of the individual student becomes easier to notice. With universities investing in the VR simulations that commonly occur in the occupation they are currently studying, students who can calmly and comfortably deal with similar situations when starting out will massively have increased.

However, VR may not always lead to similar results to real life. Facing the real consequences of one's decisions and knowing the fact that it is a simulation can create a dissonance for some people. The investment in VR technology could improve the methods of training; however, it is not a perfect solution. By carefully considering the advantages and disadvantages, it can be concluded that VR simulations create better opportunities to students rather than negatively affect them in the scenarios in question. Through the newfound use of VR technology becoming integrated into the education system, it could create a whole new dynamic for the new generations' education format and occupational training.



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