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IOT Based Monitoring Brain's 'MTCCH' Function and Activity

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Abstract
IOT-based system for continuous monitoring of neural activity across critical brain regions: the medulla oblongata, cerebellum, cerebrum, thalamus, and hypothalamus. These regions are central to functions such as autonomic control, motor coordination, sensory processing, emotional regulation, and homeostasis. Leveraging a network of IOT-enabled biosensors, including EEG and fMRI-compatible devices, the system collects and transmits real-time neural data to a cloud platform, where machine learning algorithms analyze patterns and detect irregularities. And also, these types of mechanism which help in the field of law and revealing the truth of the crime cases for Example: A person hit someone's back portion of the head and the person get unconscious due to the lack of oxygen. Because the medulla oblongata of that person got damaged. We can find the defendant with the help of the device.

Keywords: *Biosensors, EEG, FMRI.*

1. Introduction
The Internet of Things (IOT) is transforming healthcare by integrating smart devices and sensors to collect, analyze, and transmit data for real-time monitoring and decision-making. One of the most promising applications of IOT is in the realm of brain activity monitoring. The human brain, with its intricate patterns of electrical activity, plays a pivotal role in maintaining cognitive and motor functions. Monitoring brain activity can provide valuable insights into neurological disorders such as epilepsy, Alzheimer's disease, Parkinson's disease, and even mental health conditions like anxiety and depression.

1.1. Sub Section
This technology not only enhances the accuracy and efficiency of brain activity monitoring but also provides the ability to continuously track neurological health in everyday settings. As the field advances, IOT-based brain monitoring holds immense potential for revolutionizing the diagnosis, treatment, and management of various neurological conditions, paving the way for a more connected and proactive approach to brain health.

1.2. Sub Section
Key regions like 'MTCCH' stands for Medulla oblongata, Cerebellum, Cerebrum, Thalamus and Hypothalamus play distinct roles in controlling Autonomic functions, Motor coordination, Sensory processing and Hormonal regulation. Recent advancements in internet of things (IOT) technology have opened up exciting opportunities to monitor and analyze the functions of these Brain's regions in real time. Using this technology to solving unsolved crimes is a speculative and futuristic concept rooted in neuroscience and emerging technologies [1].

2. Method
An electroencephalogram (EEG) is a test that measures electrical activity in the brain. This test also is called an EEG. The test uses small, metal discs called electrodes that attach to the scalp. Brain cells communicate via electrical impulses, and this activity shows up as wavy lines on an EEG recording. Vibration sensors can be used in the Internet of

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Things (IOT) to measure machine uptime by tracking how much a machine vibrates. The amount of time a machine is running can be calculated by tracking the amount of vibration. fMRI-compatible electrical stimulator (EPS): Combines electrostimulation with feedback from fMRI, shown in Figure 1 [2].

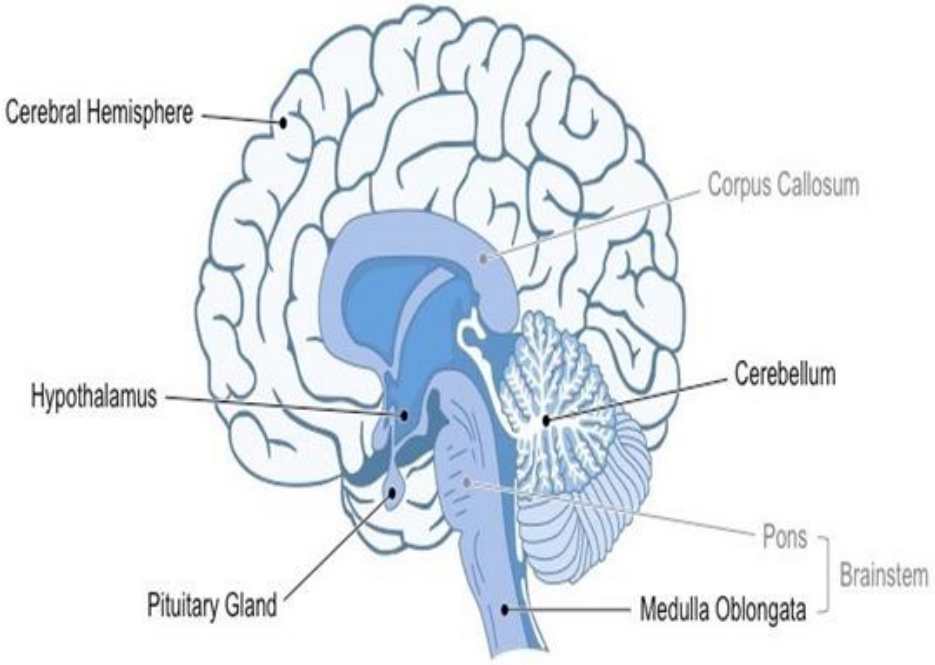

Figure 1 Labelled Major Parts of The Brain

3. Results and Discussion

3.1. Results

Remote healthcare: doctors can use IOT tools to monitor patient's brain activity from anywhere ensuring faster responses in emergencies. Recovery and therapy: IOT help track progress during rehabilitation for injuries or conditions affecting brain functions like movement or memory. Detecting the diseases that affected in the main parts of the brain through the first symptom [3].

3.2. Discussion

We can use these types of technology to reveal unsolved crimes such as, person hit someone's back portion of the brain especially medulla oblongata. or Someone intentionally make vehicle accident and make a person head injury. How investigator can find the Defendant using IOT Device. This device that work by set of algorithms. Using this algorithm investigator can find, which time the electric impulses were stop transmitting from the medulla oblongata. Through this and using this device the investigator can find which time the transmission of the impulse from the medulla oblongata got stopped. Using the time, the investigator can easily access where did he go [4].

Conclusion

IOT-based brain monitoring systems are revolutionizing neuroscience and healthcare. By continuously tracking brain activity, these systems offer early detection of neurological disorders, personalized treatment plans, and remote monitoring. They can facilitate neuro feedback training and enable advanced brain-computer interfaces. Sometimes also this device could help for solving crime. Brain was the one of the major part of the human body which control and coordinate almost all activities. If any defect or damage may cause on the regions like "MTCCH' cerebrum, cerebellum,

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medulla oblongata, thalamus, and hypothalamus. It affecting all other functions. This problem can solve by using an IOT technology.it can predict or it can visualize the problem and damage. Also by the use of some certain sensors can even find the defendant. And this type of technology, definitely helping the field of medical and crime.

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[3]. Louise Moller Jorgensen a,b,c,* , Anders Ohlhues Baandrup d , Joseph Mandeville e , Andreas Norgaard Glud f , Jens Christian Hedemann Sorensen f , Pia Weikop g , Bo Jespersen h , Adam Espe Hansen c,i,j , Carsten Thomsen c,d , Gitte Moos Knudsen a,c fMRI-compatible electrical stimulator (EPS): journal of An fMRI-compatible system for targeted electrical stimulation.

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