Wireless Wearable Big Data Brain Machine Interface (W2b2/Wwbb)

Tech ID: 27213 / UC Case 2014-495-0

SUMMARY

UCLA researchers have developed a wireless wearable big data brain machine interface. This technology provides a user-friendly brain machine interface system that can monitor/record a large amount of brain activities and transfer, wirelessly, the processed/raw data to a remote mobile unit.

BACKGROUND

- A brain machine interface is a direct communication pathway between the brain and an external device
- It is often directed at assisting, augmenting, or repairing human cognitive or sensory-motor functions
- There is a need to improving the quality of neuronal recordings, achieve stable, long-term performance, and extend the brain-machine interface approach to a broad range of motor and sensory functions
- The brain-computer interface market is technology-driven and is continuously witnessing various technological advancements which has led to high functionality and miniaturization of devices
- The traditional use of EEG devices as a diagnostic tool has now expanded to a range of applications

INNOVATION

- User friendly wearable brain machine interface system
- Ability to monitor and record large amount of neural activity to a remote terminal wirelessly

APPLICATIONS

- Investigating brain activity mapping
- Monitoring function during neurosurgery
- Diagnosing brain abnormalities
- Developing new technology/treatment to prevent/cure brain-related illness
- Develop more advanced brain-machine interface systems
- Control wearable prostheses
- Control exoskeletons

ADVANTAGES

- Big data transfer
- High throughput data transfer
- Fine and large scale resolution of neural activity
- Wireless communication: it enables the patient/subject to move freely
- Wearable format
- Real-time neural activity monitoring

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,027,362	07/17/2018	2014-495

CONTACT

UCLA Technology Development Group
ncd@tdg.ucla.edu
tel: 310.794.0558.

INVENTORS

- Liu, Wentai

OTHER INFORMATION

KEYWORDS

brain machine interface, brain computer interface, EEG, wireless, high throughput, real-time monitoring, neural activity, big data, sensory-motor function, diagnostic, wearable computing device

CATEGORIZED AS

- **Medical**
  - Devices
  - Diagnostics
  - Disease: Central Nervous System
  - Rehabilitation
  - Therapeutics
- **Research Tools**
  - Other
- **Sensors & Instrumentation**
  - Biosensors
  - Medical

RELATED CASES

2014-495-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Electrical Charge Balancing Scheme For Functional Stimulation Using Pulse Width Compensation
- Flexible Stretchable Electrode And Recording Method For Gastrointestinal Prostheses
- Methods Of Fabricating A Multi-Electrode Array For Spinal Cord Epidural Stimulation
- Selective Chemical Bath Deposition of IrOx on Thin Film Structure

UCLA Technology Development Group

10889 Wilshire Blvd., Suite 920,Los Angeles,CA 90095

tdg.ucla.edu

Tel: 310.794.0558 | Fax: 310.794.0638 | ncd@tdg.ucla.edu