



A wearable device for evaluating human motion and muscle

PI : Prof. Wei-Li Hsu

Department of School and Graduate Institute of Physical Therapy College of Medicine,
National Taiwan University

Experience: Prof. Hsu's research focuses on the development of rehabilitation training and assistive devices following spinal degenerative disease surgery, providing evidence of rehabilitation's theoretical basis and clinical efficacy. (Website: <https://reurl.cc/8j4kM7>)

Market Needs: Wearable devices have become increasingly widespread in the health and fitness industries. Through the development of wearable devices, measurements of human motion, which were previously limited to the laboratory, can now be carried out in any field. However, most wearable technology available on the market focuses mainly on the kinematic data captured by inertial sensors, leaving a gap in knowledge on muscle activation during training.

Our Technology: We developed a wearable device that combines inertial sensors and pressure sensors to monitor body motion and muscle activation during training. The inertial sensors are used to assess kinematics, while the pressure sensors are used to measure the degree of muscle activation. According to this device, people can monitor human motion and determine whether the target muscle group is correctly activated or not during training. This wearable device is beneficial to users and health care institutions due to its scientific training method.

Strength: Compared with the current measurement devices, this device integrates inertial sensors and pressure sensors. In addition to recording movement information and posture changes, it can also measure the level of muscle activation in the target muscle group. This allows people to identify whether the target muscle group is properly recruited, eliminating compensating movements during training.

Competing Products: Myontec MBelt

Intellectual Properties:

(1) This invention currently has no other patent applications

Contact (do not need to fill out):

Center for Industry-Academia Collaboration, NTU
Tel: 02-3366-9945, E-mail: ordiac@ntu.edu.tw

This information herein is intended for potential license of NTU technology only. Other usage of all or portion of this information in whatever form or means is strictly prohibited. Kindly contact us and we will help to achieve your goal the best we can.