BioSpectrum
the business of Bio & Health Sciences

New AI device to monitor patients' health through walls

17 September 2018 | News

A high-tech box can now read your health conditions wirelessly

Dina Katabi, a professor at the Massachusetts Institute of Technology (MIT) has developed a device that can monitor your health using radio signals and machine learning, even through walls.

The device can help people living with conditions like Parkinson's, Alzheimer's, depression, and pulmonary diseases and enable their physicians to wirelessly monitor their health.

Katabi built the gadget to track breathing, heart rate, sleep, gait and more as you live your life at home. According to her, the novel device will be able to replace the array of expensive, bulky, uncomfortable gear we currently need to get clinical data about the body.

It transmits a low-power wireless signal throughout a space the size of a one- or two-bedroom apartment (even through walls), and the signal reflects off people's bodies.

The device then uses machine learning to analyse those reflected signals and extract physiological data.

The gadget looks like a box and works like a Wi-Fi router; the low-power wireless signals reflect off nearby people's bodies and carry information back to the box, the MIT tech review said.

The box analyzes the information and offers up health data. The device senses your movements, even if you're just breathing, by recording changes in the electromagnetic field around you.

It can accurately monitor sleep, including individual sleep stages, in a person's own bed, with no changes to the way they sleep or what they wear.

Because the device would be installed in a home, it could track the resident over time, too, which could be useful for watching

sleep-disrupting conditions like Alzheimer's or depression, she said.

The data is collected only about specific traits and only with a person's consent. In addition, it is encrypted and is limited to certain designated recipients.