A WEARABLE DEVICE BASED ACUTE ISCHEMIC STROKE MONITORING SYSTEM

ABSTRACT

The invention relates to an acute ischemic stroke monitoring system based on wearable devices, which includes a multimodal sign sensing unit, an embedded data processing unit, a dynamic baseline generation unit and a stroke risk assessment unit. In the invention, the multimodal sign sensing unit integrates a variety of sensors to collect the original signal. The embedded data processing unit uses the Wavelet Transform Kalman filter composite algorithm to preprocess and obtain the sign data. The dynamic baseline generation unit generates a personalized dynamic baseline curve with the help of the long-term and short-term memory network model combined with environmental parameters, and the update cycle is not more than 15 minutes. The stroke risk assessment unit uses the improved weighted dynamic time warping algorithm to calculate the deviation degree, triggers an early warning when it exceeds the preset threshold, and performs emergency operations.

FIG. 1