NHM (NeuroMem® Health Monitor) AKA Health Check Engine

The NeuroMem® technology has been in continuous operation for many years in steel factories to detect vibro acoustical anomalies (out of the ordinary) noise/vibration combination. Detection of anomalies needs real time low power, high speed, incremental learning, as well as the concept of **unknown** (unseen before) which not built in in deep learning (perceptron based ML). NeuroMem has these builtin features on and does not use energy to fetch decode and execute line of software, therefore being ideal for miniature battery operated device. Even the real time learning process if hardwired, therefore also very low energy demanding.

The combination of a photoplesmography (PPG) miniature sensor, combined with a NeuroMem miniature radial basis classifier ASIC allows to perform continuous blood flow monitoring. This will be achieved by a wearable preferably located on a convenient place such as the ankle inside or not a sock. The device will be just a thin and light rubber band conveniently located around the ankle with a thickness around 3 mm whicn be weared 24/7. The miniature LIPO rechargeable battery will run for many days.

The NHM will allow permanent blood monitoring, giving continuous blood pressure using PTT (Pulse Transit Time) and more importantly anomalies detection in the blood circulation.

These anomalies which alter the "real time learned blood circulation profile" are typically precursors of imminent seizures (epilepsy), heart problems, Covid or other type of pathologies having an impact on the usual profile of blood circulation.

These anomalies, when detected, will be recorded on a microSD card, stamped the time of day, the duration of the events as well as physical activity based on MEMS such as running sleeping, walking, driving, etc.

While the data can be further analyzed the device is totally autonomous and operate on a miniature lipo battery. The blood flow profile at the time of the incident will be recoded in full. Today's watches including PPG for blood pressure can be purchased at very low cost but their accuracy is extremely poor (trivial classification method) an they cannot detect anomalies nor perform continuous "unattented" condition monitoring.

Guy Paillet
General Vision Inc.
Mobile +1 415 699 0503
www.general-vision.com

07/08/2022

Putting all your Intelligence in the Cloud
might give you a Foggy Brain