A Sensor Fusion Approach for Drowsiness Detection in Wearable Ultra-Low-Power Systems

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PII: S1566-2535(17)30694-2
DOI: 10.1016/j.inffus.2017.11.005
Reference: INFFUS 927

To appear in: *Information Fusion*

Received date: 19 January 2017
Revised date: 3 October 2017
Accepted date: 12 November 2017

Please cite this article as: Victor Javier Kartsch, Simone Benatti, Pasquale Davide Schiavone, Davide Rossi, Luca Benini, A Sensor Fusion Approach for Drowsiness Detection in Wearable Ultra-Low-Power Systems, *Information Fusion* (2017), doi: 10.1016/j.inffus.2017.11.005

Highlights

- A Wearable Drowsiness Detector based on sensor fusion is presented.
- EEG and IMU sensors are used to detect 5 levels of drowsiness with 95% of accuracy.
- Efficient HW/FW co-design permits 6 hours of operation with a 200mAh battery.
- Further energy saving was investigated by porting the FW in a PULP platform.
- Results shows a 63x gain in energy efficiency extending 7 times battery duration.