Journal of Sensors

Special Issue on

Sensors: Deep Learning and Wearable Sensing

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Deep Learning Neural Networks have gained tremendous interest in recent years. It has revolutionised many fields, worth mentioning speech, and handwriting recognition, which undergone only marginal improvements for many decades. Significant improvement in "classification," "pattern recognition," and "prediction" achieved by Deep Learning are the key contributing factors underlying these revolutions. Encouragingly, the advancement of these underlying contributors can offer potential pathways to "maintaining wellness," which has recently received greater importance compared to "sick care." One of the many possible ways of maintaining wellness is by profiling human behaviour through relevant markers (e.g., mood, sleep, and physical activity) and identifying any persistent anomaly early enough so that interventions can be brought in place to prevent the onset of sickness. Deep Learning Neural Networks can be a great tool for this, as human behaviour modelling and anomaly detection/perdition can essentially be decomposed to various classification, prediction, and pattern recognition challenges.

Wearable Computing plays a crucial part in this solution, as the collection of real-time physiological, behavioural, and emotional data has only been possible due to the tremendous advancement in the wearable technology. Modern smartphones and smart watches can measure a wide range of parameters spanning, heart rate variability, skin conductance, and so on. However, data measured by the wearable sensors are likely to be compounded with noise, which poses challenges of maintaining accuracy in prediction, classification, and so forth.

Precisely, application of Deep Learning on noisy wearable/smartphone sensor data for human behaviour modelling is the key theme of this Special Issue. This issue accepts high-quality articles containing original research results and conceptual frameworks backed by literature and survey articles of exceptional merit.

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