

Physical activity recognition using a wearable accelerometer : new perspectives for energy expenditure assessment and health promotion

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Propositions

1. A single accelerometer allows accurate recognition of lying, sedentary, activity standing, walking, running, and cycling in laboratory and free-living conditions. - *This thesis*
2. Physical activity recognition improves accelerometer-based estimations of energy expenditure as compared to activity counts. - *This thesis*
3. In healthy adults, the engagement in active transportation is the major determinant of the physical activity level. - *This thesis*
4. Non-ambulatory activities play an important role in the prevention of cardiovascular diseases. – *This thesis*
5. Obese subjects spend significantly more energy than lean ones in performing the same physical task. – *Schoeller et al (2002) Int J Obes relat metab Disord 26(1): 97-101*
6. Generalization is necessarily the most important quality of models for activity recognition. - *Rothney et al (2007) J Appl Physiol 103: 1419-1427*
7. On a daily basis, the energy expended during structured exercise is less than that during nonexercise activity. - *Hamilton et al (2007) Diabetes 56: 2655–2667*
8. We must learn to be tranquil in the midst of activity and to be vibrantly active in repose. - *Indira Gandhi (1917 - 1984)*
9. Recognition is simply the act of grouping the infinite instances of the universe in a fistful of classes.

Propositions belonging to the PhD thesis entitled:

Physical activity recognition using a wearable accelerometer

New perspectives for energy expenditure estimation and health promotion

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Eindhoven, 15 October 2010