

## **Search strategy**

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*"Systematic review on the application of wearable inertial sensors to quantify everyday life motor activity in people with mobility impairments"*

## Search categories and Boolean operators

- 1) People with mobility impairments
- 2) Inertial sensor technology
- 3) Data processing algorithms
- 4) Free-living conditions
- 5) Activity recognition or classification
- 6) Animal studies

{1 AND [(2 AND 3 AND 4) OR (2 AND 5)]} NOT 6

## Database-specific search terms

### Medline (Ovid)

- 1) exp disabled persons/ or exp motor skills disorders/ or exp rehabilitation/ or exp patients/ or exp "diseases (non mesh)"/ or ("handicap\*" or "disab\*" or "disorder\*" or "rehabilitation\*" or "disease\*" or "patients" or "motor impairment\*" or "dysfunction\*" or "syndrome\*" or "brain injur\*" or "spinal cord injur\*" or "palsy" or "paralysis" or "\*paresis" or "hypertonia" or "spasticity" or "meningitis" or "myopath\*" or "neuropath\*" or "stroke").ti,ab,kw.
- 2) "actigraph\*".ti,ab,kw. or exp accelerometry/ or "actimetry".ti,ab,kw. or "acceleromet\*".ti,ab,kw. or "gyroscope".ti,ab,kw. or "magnetomet\*".ti,ab,kw. or exp magnetometry/ or "inertial sensor\*".ti,ab,kw. or "inertial measurement unit\*".ti,ab,kw. or "imu".ti,ab,kw. or "motion sensor\*".ti,ab,kw. or "movement sensor\*".ti,ab,kw.
- 3) ("algorithm\*" or "signal process\*" or "data process\*" or "pattern recogni\*").ti,ab,kw. or exp computing methodologies/ or exp Pattern Recognition, Automated/
- 4) "daily living\*".ti,ab,kw. OR "daily life".ti,ab,kw. OR "adl".ti,ab,kw. OR "everyday life".ti,ab,kw. OR "free living".ti,ab,kw. OR "outdoor\*".ti,ab,kw. OR "home".ti,ab,kw. OR "hand activit\*".ti,ab,kw. OR "arm activit\*".ti,ab,kw. OR "walking activit\*".ti,ab,kw. OR (daily ADJ3 activit\*).ti,ab,kw. OR exp "Activities of Daily Living"/
- 5) ((classif\* adj3 activit\*) or (recogni\* adj3 activit\*)).ti,ab,kw.
- 6) exp animal/ not exp human/

## Embase

- 1) 'disabled person'/exp or 'disability'/exp or 'rehabilitation'/exp or 'patient'/exp or 'diseases'/exp or ('handicap\*' or 'disab\*' or 'disorder\*' or 'rehabilitation\*' or 'disease\*' or 'patients' or 'motor impairment\*' or 'dysfunction\*' or 'syndrome\*' or 'brain injur\*' or 'spinal cord injur\*' or 'palsy' or 'paralysis' or 'paresis' or 'hypertonia' or 'spasticity' or 'meningitis' or 'myopath\*' or 'neuropath\*' or 'stroke'):ti,ab,de
- 2) 'actigraph\*':ti,ab,de OR 'actimetry'/exp OR 'actimetry':ti,ab,de OR 'acceleromet\*':ti,ab,de OR 'accelerometry'/exp OR 'accelerometer'/exp OR 'gyroscope':ti,ab,de OR 'magnetomet\*':ti,ab,de OR 'magnetometry'/exp OR 'inertial sensor\*':ti,ab,de OR 'inertial measurement unit\*':ti,ab,de OR 'imu':ti,ab,de OR 'motion sensor\*':ti,ab,de OR 'movement sensor\*':ti,ab,de
- 3) 'algorithm\*':ti,ab,de OR 'signal process\*':ti,ab,de OR 'data process\*':ti,ab,de OR 'pattern recogni\*':ti,ab,de OR 'information processing'/exp OR 'signal processing'/exp
- 4) 'daily living\*':ti,ab,de OR 'daily life':ti,ab,de OR 'adl':ti,ab,de OR 'everyday life':ti,ab,de OR 'free living':ti,ab,de OR 'outdoor\*':ti,ab,de OR 'home':ti,ab,de OR 'hand activit\*':ti,ab,de OR 'arm activit\*':ti,ab,de OR 'walking activit\*':ti,ab,de OR (daily NEAR/3 activit\*):ti,ab,de OR 'daily life activity'/exp
- 5) (classif\* NEAR/3 activit\*):ti,ab,de OR (recogni\* NEAR/3 activit\*):ti,ab,de
- 6) 'animal'/exp NOT 'human'/exp

## Scopus

- 1) TITLE-ABS-KEY ( "handicap\*" OR "disab\*" OR "disorder\*" OR "rehabilitation\*" OR "disease\*" OR "patients" OR "motor impairment\*" OR "dysfunction\*" OR "syndrome\*" OR "brain injur\*" OR "spinal cord injur\*" OR "palsy" OR "paralysis" OR "\*paresis" OR "hypertonia" OR "spasticity" OR "meningitis" OR "myopath\*" OR "neuropath\*" OR "stroke" )
- 2) TITLE-ABS-KEY("actigraph\*" OR "actimetry" OR "acceleromet\*" OR "gyroscope" OR "magnetomet\*" OR "inertial sensor\*" OR "imu" OR "inertial measurement unit\*" OR "motion sensor\*" OR "movement sensor\*")
- 3) TITLE-ABS-KEY("algorithm\*" OR "signal process\*" OR "data process\*" OR "pattern recogni\*")
- 4) TITLE-ABS-KEY ( "daily living\*" OR "daily life" OR "adl" OR "everyday life" OR "free living" OR "outdoor\*" OR "home" OR "hand activit\*" OR "arm activit\*" OR "walking activit\*" OR ( daily W/2 activit\* ) )
- 5) TITLE-ABS-KEY ( ( classif\* W/2 activit\* ) OR ( recogni\* W/2 activit\* ) )
- 6) INDEXTERMS ( animal AND NOT human )