Smartphone-based Cough and Sleep Quality Detection

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1. Problem

2. Research Question

To which degree of accuracy can a mobile application detect asthmatic nocturnal cough and sleep quality with the smartphone’s built-in microphone?

3. Research Framework

1. Marsden et al. (2016): Nocturnal cough frequency provides an objective assessment of asthma symptoms that correlates with standard measures of asthma control
2. Luyster et al. (2012): Sleep quality is associated with asthma control even if accounted for concomitant diseases

4. Method: Learning Pipeline

5. Expected Results

A classification model with accuracy values close to 1 for performing the cough detection and sleep quality estimation can be developed.

References


