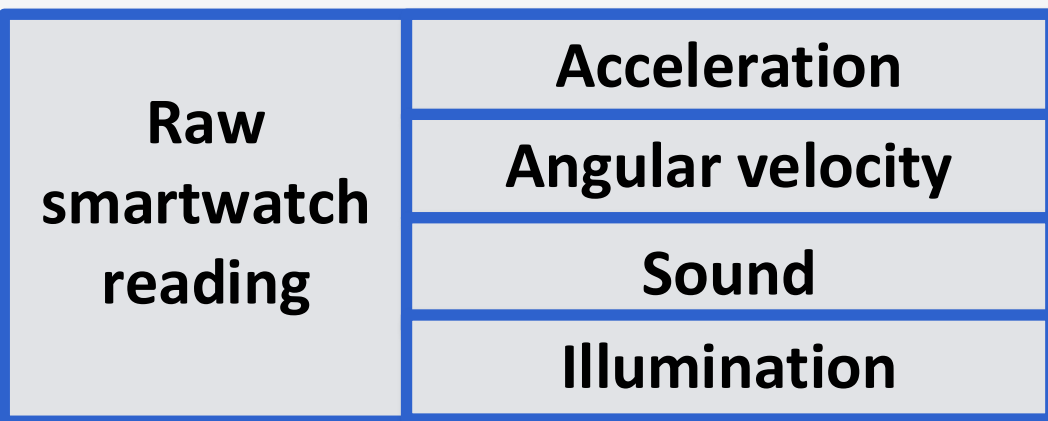


Data Collection and Preprocessing



Smoothing and outlier elimination

Feature Acquisition

Feature calculation

Feature selection

Tilt angle

Rotation angle

Energy

Zero-crossing

Sleep Event Detection

Body Posture and Movement:
trained classifier

Acoustic Event:
recognition algorithm

Illumination
condition

Clock

Sleep Pattern Report

Hidden Markov
Model

Sleep Stage Sequence

Sleep Quality