

Validation of a machine learning-based algorithm for the automated recognition of daily living activities from IMU measurements in school children	
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Description	<p>The recognition of daily living activities (ADLs) through inertial measurement units (IMUs) has become an important part of health monitoring and intervention. Traditional activity recognition methods often depend on manual annotations, which are labor-intensive and prone to inaccuracies. Machine learning algorithms present a promising alternative, enabling precise and automated analysis of IMU data. This study focuses on validating a machine learning-based algorithm to classify various ADLs in school-aged children, using data from two IMUs attached to the lower back and the thigh. Implementing this technology could provide valuable insights into children's physical activity patterns, support early detection of health issues, promote healthier lifestyles, and aid in the development of personalized intervention programs.</p> 
Tasks	<ul style="list-style-type: none"> <li>• Comprehensive literature search</li> <li>• Developing an adequate measurement protocol</li> <li>• Obtaining ethics approval</li> <li>• Recruiting children from schools, sports clubs, etc.</li> <li>• Conducting on-site measurements using two Axivity AX6 IMUs</li> <li>• Preparing data for analysis by engineer</li> <li>• Evaluating and interpreting outcomes</li> <li>• Writing thesis in publication-based format (in English)</li> </ul>
Requirements	<ul style="list-style-type: none"> <li>• Interest in biomechanics research</li> <li>• Good knowledge of English language (working language of research group)</li> <li>• Technical affinity an advantage</li> </ul>
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