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Titel:

Framework for Electrocardiogram Analysis and Machine Learning leveraging pretrained and foundational models

Abstract:

While Machine Learning in Medicine is progressing swiftly, its practical impact is often limited due to challenges in standardization and accessibility. We introduce ExChanGe, a versatile open-source framework for electrocardiogram (ECG) analysis. It features tools for effective visualization, data transformation, and machine learning-based predictions. Designed for interoperability, and ease of use, it enables privacy-preserving fine-tuning without prior expertise. It provides several pre-trained models based on open standards, including a novel foundational ECG model, fostering collaboration and accessibility. Evaluations show its reliable performance in ECG classification, even with limited datasets, offering a valuable resource for researchers and clinicians.