



CLSA Approved Project

Applicant

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Project Title

Development of interpretable machine learning models for fall prediction in older adults using the CLSA comprehensive dataset

Project Summary

Falls are the leading cause of injury-related hospitalization and death among older adults. To date, researchers from different disciplines have investigated the fall predictive power of different biomarkers/factors that are specific to their domains. These biomarkers/factors include performance-based measures (e.g., total time to complete a timed-up-and-go test), depression, and poor nutrition. However, none of these factors have shown to be stable in the identification of fall-prone older adults across studies. This can be due to complex interactions between different risk/protective factors at the individual level, suggesting that any single factor can touch only a small part of the entire knowledge regarding this problem. By incorporating multi-domain measures (e.g., socio-economic, genetics) in the CLSA comprehensive dataset, this project aims to develop interpretable machine learning models to predict risk of falls in older adults to inform more precise intervention strategies.

Keywords

Machine learning, Fall risk assessment, Older adults