UNIVERSITÀ DEGLI STUDI DI CAGLIARI

HR EXCELLENCE IN RESEARCH

Dipartimento di Scienze Mediche e Sanità Pubblica
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Research topic:
Multimodal phenotyping of idiopathic REM sleep behavior disorder

Abstract:
My research is focused on the multimodal phenotyping of idiopathic REM Sleep Behavior Disorder (iRBD) using data from the FARPRESTO project, which includes clinical, neuropsychological, and physiological assessments collected at patients' first diagnostic visit and further follow-up recordings. The goal is to identify distinct patient subgroups that differ in their likelihood of phenoconversion to alpha-synucleinopathies such as Parkinson's disease and dementia with Lewy bodies.To this aim, unsupervised machine learning techniques, such as clustering algorithms, along with dimensionality reduction methods, on heterogeneous features, including categorical and numerical variables, are applied. By integrating information across multiple domains, this approach aims to uncover phenotypes associated with early pathological changes. Additionally, the research explores how the identified clusters relate to long-term outcomes and clinical trajectories, contributing to the development of personalized risk models and supporting early intervention strategies in prodromal neurodegeneration.