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Initial results using neuroimaging features to predict the genetic risk of RLS

Restless Legs Syndrome (RLS) is an urge to move the legs when at rest, resulting in severe insomnia and subsequent depression. While the ING at HMGU has deciphered a substantial part of the polygenic basis of RLS, there is still a lack of phenotypic and brain-derived biomarkers. Using the UKB database, we extracted gray matter volume, fractional amplitude of low-frequency fluctuation, global and local correlation from structural and functional MRI. From the genetic data, we extracted the polygenic risk score (PRS) of RLS. We then created two machine learning models aimed to predict PRS from the brain-derived features.
So far, none of the learning algorithms was able to predict the PRS from the neuroimaging features. However, several relevant brain-derived markers have not been used yet. Despite preliminary negative results, the technical basis for large-scale analysis including neuroimaging and genetic data from the UKB database is now ready to be used for further enquiries.

I want to give an oral presentation.

no

I want to present a poster.

yes

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