Titolo (provvisorio): Prediction of developmental psychiatric co-morbidities in a large pediatric sample.

Relatore/i: Arnulfo Gabriele, Stefan Haufe

E-mail: gabriele.arnulfo@edu.unige.it

Indirizzo: Via All'Opera Pia, 13 - 16145 Genova Synapsi-Lab

Motivazione e campo di applicazione

Automated diagnoses of psychiatric or neurological disorders based on objective neurophysiological measures could in the future help to choose appropriate treatments and reduce costs.

Obiettivi generali e principali attività

In this project, publicly available EEG data will be used to classify the (potentially simultaneous) presence of various developmental disorders in a large cohort of young people [9]. The focus of the EEG analysis will be on estimating resting-state functional brain connectivity between brain regions of interest in EEG source space, and relating these and other features to the presence of brain disorders. Finally, multi-variate machine learning will be used to obtain diagnosis predictions.

Obiettivi di apprendimento (strumenti tecnici e analitici, metodologie sperimentali)

The EEG processing for this project will mainly be performed in Matlab, but other parts may be implemented in Python. The successful candidate will learn advanced signal processing techniques as well as advanced machine learning methods tailored to neuroscience.

Luogo/i in cui svolgerà il lavoro: Charité Universitätsmedizin Berlin, Germany

Informazioni aggiuntive

Numero massimo di studenti: 1

Supporto finanziario/borse di studio: Erasmus +