



Thesis Project Form

Title (tentative): Electrophysiological correlates of voluntary movements of the upper limb

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Description

Motivation and application domain

Functional evaluation of voluntary movements is fundamental for assessing the level of impairment in case of injury, as well as to evaluate the effects of a rehabilitation therapy. In clinical settings, this is traditionally performed using clinical scales, however, several metrics based on electrophysiological measurements are advancing and may provide more objective metrics for functional assessment.

General objectives and main activities

This thesis work will contribute to implement in the Rehab Technologies Lab of IIT, tools for a global assessment of recovery, which considers the different facets of functional recovery. The work includes electrophysiological data collection during voluntary movements executed with and without the aid of robotic devices developed in the lab, as well as the analysis of collected dataset.

Training Objectives (technical/analytical tools, experimental methodologies)

The thesis will allow training in neuroengineering, experimental neuroscience, neurophysiology, data analysis, and code writing.

Place(s) where the thesis work will be carried out: Istituto Italiano di tecnologia, via Morego 30, Genova

Additional information

Pre-requisite abilities/skills: Coding expertise is recommended for the data analysis part

Maximum number of students: 1