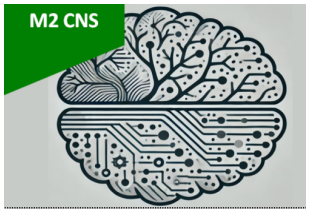

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Host team: Cophy https://www.crnl.fr/fr/equipe/cophy

Internship supervisor: Elif KÖKSAL-ERSÖZ, Researcher Inria, elif.koksal@inria.fr https://elifkoksal.github.io/

Project title: Chunking dynamics in sequential learning

Project summary:

Chunking is a remarkable cognitive process that allows the brain to organize information into larger, meaningful units, enabling efficient memory and processing. For example, instead of remembering a sequence like "1234567890," we naturally group it as "(123) 456-7890." In the context of motor learning, chunking serves as a key mechanism for integrating motor sequences, streamlining complex actions into cohesive, automated patterns. This process evolves dynamically during learning: chunks become progressively fewer and longer, reflecting reorganization strategies that optimize performance. This internship will explore the evolution of chunking patterns during visuomotor sequence learning in baboons using a mathematical model of associative memory. The goal is to uncover the dynamical principles of chunk reorganization during learning. Familiarity with dynamical systems, mathematical models and proficiency with Python are required.

References:

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3. Tosatto L, Fagot J, Nemeth D, Rey A. The Evolution of Chunks in Sequence Learning. Cognitive Science. 2022;46(4):e13124.