

Invitation to BICA 2017 Session 148

August 4th, Friday 17:30

Round-table Discussion for Research Collaboration with the Whole Brain Architecture

Abstract:

The WBA approach is an approach to realize artificial general intelligence by ‘mimicking’ the architecture of the entire brain.

It is argued that referring to the brain architecture could help to attain a unifying and generally accepted framework for the design, characterization, and implementation of human-level AGI, for the human brain is, of course, the organ that realizes human-level intelligence and its architecture can be used as a shared reference architecture. Having a reference architecture would facilitate collaboration among researchers and the realization of human-level AGI.

The reference is now more realistic than before, as we have more neuroscientific knowledge of brain architecture (such as connectome) and functions and more practical and theoretical knowledge on information processing or machine learning to hypothesize the working of the brain.

In this session, participants will discuss how a community of researchers could work together to create a unifying and generally accepted framework by referring to the brain to realize human-level intelligence. Notably, connectomic architecture, the modeling of brain organs such as the neocortex, hippocampus, basal ganglia, amygdala, and cerebellum, and required learning algorithms to be shared will be discussed. Besides architecture, tools for agent simulation and for neuroinformatics to be shared for research would be discussed. If time permits, a roadmap with shared frameworks and tools may be discussed.

Researchers with ideas on this topic are encouraged to be discussants.