PAGANI-??: Parallel Toolkits for Fast Mapping of High-Resolution Human Brain Connectome

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**Introduction**

Nowadays, graph theoretical approaches combined with non-invasive neuroimaging technologies are widely used for mapping and topological description of complex human brain networks, represented as the human connectomes (Bullmore and Sporns, 2012). The construction and analysis of high-resolution brain connectomes at a voxel scale are important because they provide finer spatial information without prior parcellations (Hayasaka 2010). However, the increasing amount of datasets and the growing network size bring forward high requirements for the computational capabilities in the high-resolution human connectome study. Here, we developed a parallel graph-theoretical analysis of ??? (Pagani-) using a hybrid CPU-GPU accelerated framework.