



M&A CONSULTING SERVICES INC.
مكتب إم آند أيه للاستشارات الأكاديمية

Website: www.maconsultingservices.ca
E-mail: info@maconsultingservices.ca
Canada Mobile: +1 604-721-8669
5611 Fairview Place
Vancouver BC
V6T 2E2 CANADA

Information Systems, Computer Science, Networks Sample

This document is edited by M&A professionals according to North American standards. Please click [here](#) to start your order.

The human brain cortex is composed ~~of~~ by about 15 billion neurons, and each neuron connects to others ~~through~~ by 8, 000 to 10, 000 synapses. The question arises, is it possible to understand the network structure of cerebral nerves and brain regions in terms of a network theory? Using ~~f~~Functional magnetic resonance imaging (fMRI) datasets and/or magneto encephalograph (MEG) recordings in simulations of the characteristic path length and clustering coefficients ~~have~~ ~~s~~ shown the human brain to have properties of a complex network ^{4,5,6,7}. The analyses of complex networks have quantified the structure and the function of the brain, and provided us with an advanced understanding of brain dynamics ^{8,9,10}. In 1997, Shulman and his group revealed a broad ~~pattern of the~~ rest-activity pattern of the brain using positron emission tomography ~~(PET)~~ ¹¹. ~~and Since that study,~~ similar patterns ~~have been were~~ observed using fMRI ¹². This ~~research suggested phenomenon presented the~~ spatiotemporally correlated synchronization at a rate lower than 0.1 Hz, not only for the human brain but also for animals, ~~which in turn.~~ This implied a functionally connected coactivation of multiple regions in ~~the~~ cerebral cortex, ~~which is the~~ so-called “default network” ¹³ or “default-mode brain network” ¹⁴. ~~There are eleven implied primary areas in the~~ core regions ~~of the or~~ default network of the human brain ~~are mainly implied eleven areas~~, namely (L, R)–LTC, dMPFC, vMPFC, (L, R)–IPL, PCC/Rsp, (L, R)–PHC, and (L, R)–HF, where (L, R) ~~denotes means~~ the left- and right-side of ~~the~~ corresponding brain areas ^{12,13}. ~~The use of the word “default” references the fact Default means~~ that even when the brain is not focused on the external environment, ~~i.e., namely~~ in the absence of an explicit task, it continues to engage in a wide range of activities. This is called ~~the~~ default activity. The default-mode brain network is considered to be a system much like the motor or visual systems, and is also associated with cognitive processing, development, aging, consciousness, and psychiatric/neurological diseases ^{15,16,17}. Furthermore, the correlation network of the default-mode brain network is verified by evidence from neuroscience ^{18,19,20}. A graphical representation of the default-mode brain network consists of different nodes within regions of the brain that are functionally



M&A CONSULTING SERVICES INC.
مكتب إم أند آيه للاستشارات الأكاديمية

Website: www.maconsultingservices.ca
E-mail: info@maconsultingservices.ca
Canada Mobile: +1 604-721-8669
5611 Fairview Place
Vancouver BC
V6T 2E2 CANADA

Information Systems, Computer Science, Networks Sample

This document is edited by M&A professionals according to North American standards. Please click [here](#) to start your order.

connected. The representation is formulated as an interaction of sub-systems. This kind of representation is helpful in explaining how different parts of the brain cooperate to perform a function and how multiscale neural systems work ²¹. Accordingly, these understandings, together with the dynamics of neuron activities at the neuron level, could lead to the construction of ~~construct an~~ unified brain model connecting ~~between~~ macroscopic phenomena like memories or sensory perception and microscopic phenomena ones like ~~the~~ neuron behavior with ion activities. ~~The~~ Observations results of the default-mode brain are expected to present bring opportunities to unify macroscopic and microscopic behaviors of the brain. Also, these observations are useful to enhance our understanding of ~~understand~~ the neural origins of ~~the fMRI blood oxygen level dependent (BOLD) measurements as well as,~~ MEG or electroencephalogram (EEG) signals.

DONOR