Neural signal selection algorithm for a multichannel acquisition system

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Biomedical Engineering (BME)

Technology

Methods, systems, and computer program for brain machine interfaces which transmitts neural signal information. It provides a method for selectively enabling and disabling channels in order to improve efficiency in the transmission and processing of the neural signals in a prosthetic device designed to provide or enhance motor control capabilities to motor impaired patients. A method according to one embodiment can include a step for receiving a plurality of neural signals on a first plurality of channels. The method can also include a step for calculating criterion variable value for the neural signal on each of the channels. In addition, the method can include a step for ranking the channels by the criterion variable value. The method can also include a step for calculating mutual information between a measured output and a total population activity for the first plurality of channels. Further, the method can include a step for determining a second plurality of channels that encodes a predetermined amount of the mutual information.

Intellectual Property

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