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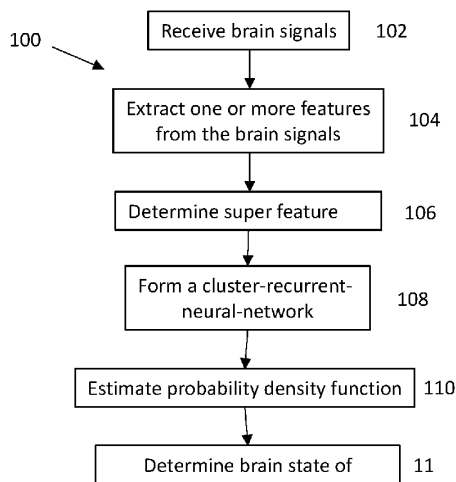


Figure 1

(57) Abstract: Disclosed is a system and method for measuring a non-stationary brain signal. Per the method, the system receives brain signals, extracts one or more features from the brain signals, determines, based on the extracted one or more features, a super feature set describing dynamic behaviour of the brain signals, and forms a cluster-recurrent-neural-network (CRNN) from one or more samples taken from the super feature set, by forming at least one cluster of the one or more samples based on the one or more features, to estimate a brain state of interest in each cluster of brain signals; using a Monte Carlo approach to estimate an a posteriori probability density function of the brain state of interest by applying the CRNN to each cluster of the at least one cluster; and determining the brain state of interest from the estimated density function.

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