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(54) Title: ALERT VERSUS FATIGUE DISCRIMINATOR

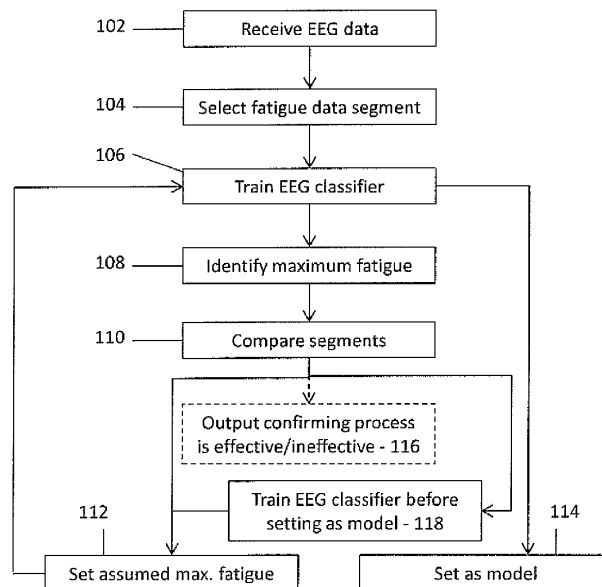


Figure. 1

(57) Abstract: Described is a computer system for establishing an electroencephalogram (EEG) model for discriminating between alert and fatigue states. The computer system comprises a receiver module for receiving an alert state segment and one or more EEG fatigue data of at least one subject, a segment selector for selecting one of the one or more fatigue data segments, an EEG classifier trainer for training an EEG classifier by extracting an EEG feature space from the alert state segment and assumed maximum fatigue segment, and a maximum fatigue identifier module for identifying a segment of maximum fatigue by applying the EEG classifier to each of the fatigue data segments. The computer system further comprises a segment comparator for determining if the segment of maximum fatigue is consistent with the assumed maximum fatigue segment and a limit setter for setting the segment of maximum fatigue as a revised assumed maximum fatigue segment.

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