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BrainDepth: Brain Signal Analysis for Neuro-Fuzzy Modeling of Subjective Depth Perception

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Description BrainDepth system presents an innovative methodology for assessing subjective differences in depth perception using Brain Signals analysis. Depth perception is divided into three levels: short-range, mid-range and long-range based on alpha power activity elicited from EEG signal recordings from the occipital, parietal, and prefrontal regions of the brain. The proposed neuro-fuzzy model combines the power associated with understanding EEG signals with the adaptable reasoning of fuzzy logic to classify something based on considerable variability between each of the individuals tested. Results indicate that the classifier can reliably differentiate depth perceptual abilities and thus represents an efficient method to assess a characteristic by non-invasively measuring brain electrical activity. This method has potential applications in several high stakes fields where accurate spatial judgments are critical, such as …