Pretesting Recommendations

FacePulseRate: A Suite of Features to Facilitate the Use of iPhys Toolbox

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It has been observed (and discussed in the literature) that the accuracy of the pulse-rate algorithms is largely a function of head movement, where less head movement results in greater accuracy. Because accuracy may not be acceptable based upon head movement, it is recommended to conduct pretests under the same behavioral conditions expected during data collection.

During pretests, collect data from both video and a traditional method (e.g., PPG, ECG). Because the traditional methods typically provide data by millisecond or second, the output from the traditional method should be aggregated (by mean) within each window used by FacePulseRate (by default, these occur in 1.5-minute intervals). Once data is collected, the data can be compared. The coefficient of determination (R^2) metric may be an appropriate metric on which to determine accuracy, although many metrics exist to compare trial output to ground truth.