

Unlocking Cost-Effective Insights: Leveraging Webcam Metrics for Cognitive Workload Assessments

Maykel van Miltenburg, Carmen van Klaren, Chihab Amghane

Royal Netherlands Aerospace Centre – NLR

Maykel.van.Miltenburg@nlr.nl, Carmen.van.Klaren@nlr.nl, Chihab.Amghane@nlr.nl

1. How does the manipulation of task complexity, across varying conditions from easy to hard, influence performance metrics such as reaction time in MATB-II, hit rate in the n-back task, and physiological markers including total blink count and PERCLOS?
 - Hypothesis 1a: As task complexity increases, an increase in reaction time is anticipated.
 - Hypothesis 1b: As task complexity increases, a decrease in hit rates is expected.
 - Hypothesis 1c: As task complexity increases, a reduction in total blink count is anticipated.
 - Hypothesis 1d: As task complexity varies, no effect in PERCLOS is expected.