README File:

Title: **Inclusive and Accurate Clinical Diagnostics Using Intelligent Computation and Smartphone Imaging**

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This readme file aims to provide a guide to use the data associated with this publication, available at DOI 10.1021/acssensors.4c01588.

Main Figures

The data is provided as individual .csv files, one for each sub figure, when it is not already provided in the supplementary information at the publisher’s.

Figure 2:

In Figure 2b, column 1 is the participant ID, column 2 is the melanin content, and column 3 is the skin tone. Data starts in row 2.

In Figure 2d, column 1 is the participant ID, column 2 is the raw error, and column 3 is the corrected value. Data starts in row 2.

In Figure 2e, 2f, and 2g, column 1 is the mean value of the measurement (e, oximeter, f, corrected, g, in the app), whilst column 2 is the error when compared to the reference measurement. Data starts in row 3.

In Figure 2h, 2i, and 2j, column 1 is the measurement with the spectrophotometer, column 2 is the raw measurement with phone and column 3 is the corrected value (for the different metrics L\* in h, a\* in I and b\* in j). Data starts in row 3.

In figure 2k and l, columns 1-3 provide the data for L\*, 5-7 for a\* and 9-11 for b\*. In each set, the first column contains participant ID, the second column the error with the raw measurement and the third column, the error after correction. Data starts in row 4.

Figure 3:

In Figure 3a, column 1 is the mean pressure, whilst column 2 is the error. Data starts at row 3.

In Figure 3b, column 1 is the pCO2 index from the reference blood gas analyser and column 2 is the same measurement with the app. Data starts at row 3.

In figure 3c, column 1 is the SpO2 model weights, compared with the weights for PCo2 in column 2. Data starts at row 3.

Figure 4:

In Figure 4a, column 1 provides the SpO2 (in %) results with the oximeter and column 2 the results with the app.

Figure 4c provides the SpO2 (in %) results with the oximeter and column 2 the results with the conventional colorimetry technique.

In Figure 4d, 4e, and 4f, column 1 is the measurement of SpO2 (in %) and column 2 is the error (for the different methods conventional in d, uncorrected images in e and corrected in f). Data starts in row 3.

The data for supplementary information files are provided as excel files, one for each figure in order.