BMI BASED AUTOMATED FACIAL INDEX CLASSIFICATION TO AID THE PROCESS OF FORENSIC FACIAL RECONSTRUCTION

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Introduction

As the process of forensic facial reconstruction is still at its infancy in Sri Lanka, we introduced a novel semi-automated approach for forensic facial reconstruction which utilized local skin tissue thickness and facial feature data sets. This study in with regard to the aforementioned facial feature aspect of the reconstruction process.

Justification

Since facial features such as the shape of one's nose, eyes etc. cannot be ascertained from his or her skeletal remains, we propose a separate facial feature study for the local population. Here, we intend to use photographic data from a local sample to calculate the following (most prominent) facial indexes;

    Nasal index

    Eye index

Proposed project

Previous studies done in this area have used manual techniques such as sliding Vernier calipers to obtain measurements pertaining to these indexes. But following such methods will undoubtedly carry a human error to an anthropometric calculation which needs to be precise, thus we propose to use automated image processing techniques for this purpose.

Further we propose to incorporate the BMI of each subject to the data set, whereby we would then be able to analyse index variations in relation to the BMI based weight categories.

Expected outcome

The main objective of this study would be to anthropometrically classify facial indexes of a Sri Lanka sample population where the outcomes would be used in process of forensic facial reconstruction. An initial nasal index study was conducted for a sample group of 30 female and male undergraduates aged 23-26, using automated computer based techniques