

Age Estimation of Asian Using Soft Computing Model Based on Bone Length of Left Hand

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Age estimation is applied in anthropology of forensic to facilitate the identification of a living person or the remains of individuals. Nevertheless, the uniqueness of the estimation models is only appropriate to a particular population. The common models are also inter and intra-observer variability where the dataset used based on qualitative which make the estimated age really depended on the expertise of the anthropologist. This paper propose age estimation focusing on Asian subjects from new-born to 18 years old using bone' length in left hand. Two soft computing models are used to develop the estimation models which are Artificial Neural Network (ANN) and Support Vector Machine (SVM). The used of length of bone is to create a new age indicator based on quantitative data and the SVM and ANN is really suitable on quantitative data. Based on results produced by these models, the SVM is the best model which is produced the lowest mean square error (MSE) value of 1.917 and 3.775 for both male and female, respectively. To conclude, the SVM is the best model in estimating the age compared to the ANN, based on length of left hand. However, the used of this model is limited only for forensic practice or experimental purpose.

Keywords: Computational Intelligent, Age Estimation, Hand Bone, Forensic Anthropology