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Poster

# Can an AI Predict Human Age from Facial Photographs as Accurately as Human Observers?

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## ABSTRACT

Humans are thought to have evolved the ability to estimate various characteristics of other humans simply by reading their facial features. One such trait that humans can seemingly determine with a relatively good degree of accuracy is age. This ability is thought to have evolved due to the evolutionary advantage when assessing potential mates, allies, and other various social advantages.

This research investigates whether an AI model, trained on a sample of human faces, can predict age as accurately as human observers. This research uses a combination of automated landmark placement, geometric morphometric methodology, skin colour, and skin texture analysis to identify the ways in which facial appearances vary within the training sample (n = 1323) of human faces. These appearance variables were then used to build a model to predict the age of the sample faces ($R^2$= 0.776; $F_{31,1291}$= 144.5; $p < 0.001$).

This model's age predictions were then compared to the predictions of 113 human individuals when rating the ages of 30 faces ranging between 21 and 68 years old. For the subset of 30 faces the AI model had a mean absolute error of 5.27 years, this proved to be more accurate than 76.1% of the humans tested.

Our results suggest that AI age prediction may be a valuable tool in both theoretical areas such as determining how humans perceive age, as well as in practical applications such as aiding human age judgements in law enforcement. Future plans for the technique will also be discussed.