

The seven ages of face recognition

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Face recognition is becoming an increasingly common feature of biometric verification systems. Now, a team from India has used a multi-class support vector machine to extend the way in which such systems work to take into account a person's age. Jayant Jagtap of Symbiosis International (Deemed) University in Pune, and Manesh Kokare of the

Shri Guru Gobind Singhji Institute of Engineering and Technology, in Nanded, India, explain that human age classification has remained an important barrier to the next generation of face recognition technology but could be a useful additional parameter in security and other contexts.

The team's novel two stage age classification framework based on appearance and facial skin ageing features using a multi-class support vector machine (M-SVM) can classify, the team suggests, classify images of faces into one of seven age groups. Fundamentally, the system examines characteristics of the image coincident with facial skin textural and wrinkles and is accurate 94.45% of the time. It works well despite factors such as genetics, gender, health, life-time weather conditions, working and living environment, tobacco and alcohol use. Indeed, accuracy is greater than 98% in the first step wherein adult and non-adult faces are distinguished.

"The proposed framework of age classification gives better performance than existing age [classification](#) systems," the team reports. They add that [future research](#) will look to improve accuracy still further for use in real-time applications. This will be done through the development of an algorithm for extracting [facial skin](#) ageing features and through the design of an efficient age classifier, the team concludes.

More information: Jayant Jagtap et al. Human age classification using appearance and facial skin ageing features with multi-class support vector machine, *International Journal of Biometrics* (2018). [DOI: 10.1504/IJBM.2019.096559](https://doi.org/10.1504/IJBM.2019.096559)

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