The need for accurate age verification online has become more pressing as children and young

people increasingly access social media, gaming platforms and other online services. Without

effective checks, under-18s can easily be exposed to inappropriate or harmful content, such

as gambling, violent material or online grooming. For companies, there is also the issue of

legal compliance, as regulations in the UK and elsewhere place a duty of care on providers

to protect young users. Reliable age verification helps balance the benefits of digital

participation with necessary safeguards.

One of the leading approaches is biometric facial analysis. This works by asking a user to provide

an image of their face, which is then analysed against large datasets of known

age profiles. The system looks at markers such as bone structure, skin texture and facial

ratios to estimate whether a person is likely to fall above or below a required age threshold.

A key advantage is that it can be carried out quickly without the need for official documents,

which some users may not have or may be reluctant to share online. The process is iscreasingly

beging integrated with live images or video to try and minimise fraud.

The AI is trained on huge numbers of facial images of know ages to improve the reliability of

age estimates, the size of this training group tries to make the AI age approximation more accuarte.

AI enables the system to adjust and refine its predictions, learning patterns that may not be

visible to humans. However, the use of AI also raises questions of fairness, as results can

be less accurate for people from under-represented demographic groups if the training data

is not diverse enough.

The accuracy of biometric age verification is improving. Studies suggest that systems can

now estimate ages within a small margin of error, often within two to three years. This is

sufficient for many practical purposes, such as distinguishing whether a user is under 13 or

over 18. Nevertheless, no system is flawless, so some services use a layered approach,

combining AI-driven facial analysis with document checks or parental consent.