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Could forensic scientists soon reconstruct facial 3D images from DNA at crime scenes?

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In research published in *Advanced Science*, investigators describe their ability to reconstruct 3D facial images from DNA data, which could have important applications in forensic investigations of crime scenes.

Their model, called Diffface, applies single DNA nucleotide differences to 3D facial point clouds, or sets of data points that represent the exterior surface of a face.

When tested on a Han Chinese database with 9,674 paired DNA differences and 3D facial images, Diffface demonstrated excellent performance in DNA-to-3D image alignment and reconstruction. Also, including additional information such as age, sex, and body mass index in Diffface further improved the quality of reconstructed facial 3D images.

“Amazingly, Diffface could generate 3D facial images of individuals solely from their DNA data, projecting their appearance at various future ages,” said co–corresponding author Luonan Chen, PhD, of the Chinese Academy of Sciences.

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Additional Information

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