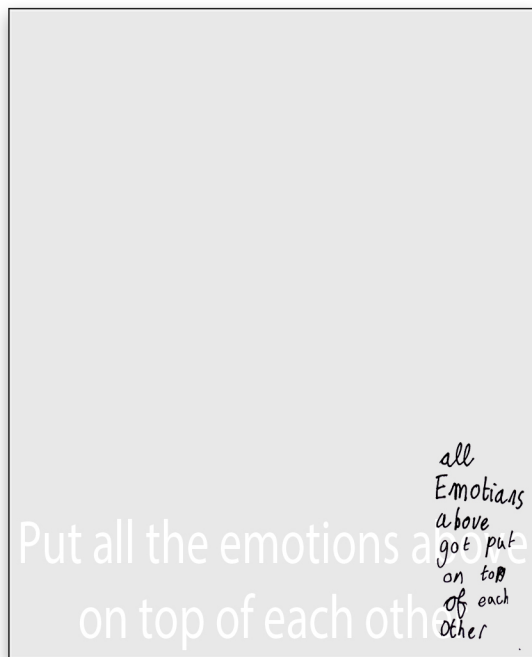
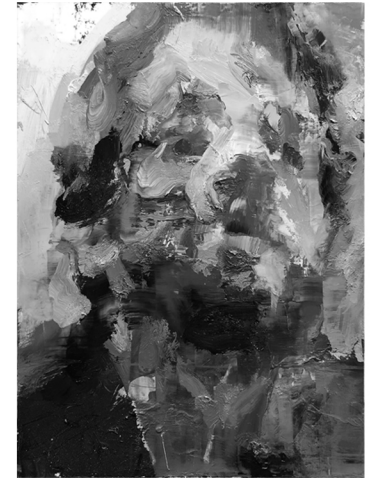


DIGITAL MIRROR

A collaboration between TCIN artist in residence Cian McLoughlin and TU Dublin mathematician and neuroscientist John Butler



The Digital Mirror: AI and the Evolution of Portraiture



The stand is a collaboration between artist Cian McLoughlin, artist in residence in Trinity College Institute of Neuroscience and mathematician and neuroscientist John Butler from TU Dublin. Together, they explore the connections between art, machine learning, and neuroscience in the context of facial recognition.

Cian has a series of paintings called "Tronies," where he overlays portraits of a single subject to freely explore the diverse spectrum of human appearance. See process images above. This mirrors the way machine learning is used in facial recognition. John's face recognition algorithm takes a series of 400 images (a video) and puts them on top of each as an average, which we call the "Meanface", and then subtracts it from individual images. The algorithm then identifies unique features, known as eigenfaces (from the German word for "own faces"). These eigenfaces mean the computer does need all images but just a few eigenfaces to recognise different emotions and people. This method of breaking down an image and reconstructing it is akin to how our visual system works. The brain deconstructs visual information and processes it, ultimately allowing us to recognize and differentiate between faces.

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