'The Next Rembrandt' portrait unveiled in Amsterdam

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(Tech Xplore)—A painting called "The Next Rembrandt" was unveiled recently at an Amsterdam museum—it was not an actual newly discovered piece by the renowned Dutch painter, but was instead a 3D

printed representation of an idealized version of a Rembrandt—as construed by software.

The portrait is the result of an effort commissioned by an advertising firm based in Amsterdam, J Walter Thompson, for one of its clients and was brought about through the efforts of several teams, mostly based at Delft University of Technology but also included input from Microsoft and teams with the Mauritshuis in The Hague and of course the Rembrandt House Museum in Amsterdam. To help explain the project, its purpose and how the painting was actually created, the team has also released an accompanying video.

The group describes the project as a four-step (18 month) process; the first involved gathering data from real Rembrandt paintings, by 3D scanning a host of them and pushing the results to a database using a deep learning algorithm. Next, the team went through a process of choosing a subject to portray by once again studying the original paintings, this time noting the subjects, their positions and propensities, and other features that appeared as common in Rembrandt's works. They wound up choosing a white male—one who should be approximately 30 to 40 years old, have facial hair, be facing to the right and be wearing dark clothing, a big white collar and a large dark hat.

The team then applied multiple algorithms to the data they had gathered to come up with a new composite image, which led to the third phase, which they called "Generating the Features"—such as typical Rembrandt eyes, noses or mouths and then used other algorithms to combine proportion data to ascertain where to place the various features.

Step four, which they called, "Bringing It To Life," involved capturing data that represented the height of the paint layers on actual Rembrandt portraits—it is what which gives them their 3D look in the original works—and using all their work to produce an actual "new" Rembrandt

portrait on a very high resolution 3D printer—of a man that looks every bit as if painted by the master himself.

The aim was not to create a new Rembrandt, one of the ad executives explained at the unveiling, but to create something new from the work he produced.

 More information: www.nextrembrandt.com/

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