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Deep Generation of Face Images On basis of Sketches

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Abstract:_New deep image-to-image translation techniques or methods enable rapid generation of face images from incomplete or rough freehand sketches. However, existing solutions adapt too much to sketches and therefore require edge maps or professional sketches as input. To solve this problem, our main idea is to implicitly model the shape space of face images and synthesize it in this space to approximate the input sketch. We take a local to global approach. We study the insertion of elements into the main components of primary surfaces and transfer the corresponding parts of the input sketches towards the basic component varieties defined by the feature vectors of the surface component samples. Here is also another deep neural network that learns the mapping function from built-in component features to realistic images with various multi-channel feature maps as mediating results to improve information flow. Because our method basically uses input incomplete or rough freehand sketches as soft links, and thus is able to create realistic face images even from incomplete or rough sketches. Because our tool is very easy to use even for untrained artists, while still helping by providing fine control over shape details. Quantitative and qualitative analysis shows the high generation capacity of our system for existing and new other solutions. The fluency and practicality of our system is confirmed by a user study._

Keywords:Image-to-Image Translation, Feature Embedding, Sketch-based Generation, Face Synthesis.

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