Duke File (IDF) Number

IDF #:T-006700

Meet the Inventors

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Mask embedding for realistic high-resolution image synthesis

Value Proposition

Software implementing artificial intelligence algorithms has the potential to transform many areas of medicine, including diagnostics. However, due to patient privacy concerns dataset size is limited which limits the efficacy of the neural network. One alternative to real patient data is computer generated images which can be used to increase the training database size. To date, there has not been a solution that can produce high resolution images that have similar realism to real patient data.

Technology

The invention describes a new approach to an image to image translation algorithm that propagates a single real image into many synthetic images. This algorithm uses an area mask that can produce high resolution images with semantic control. This has been applied to mammogram images which has produced high resolution images that are nearly twice as realistic to previous iterations of the algorithm.

Other Applications

This could be applied to other areas of medicine that require larger datasets. Similar technologies have been applied for image denoising or image reconstruction in CT and MR imaging.

Advantages

The main advantage of this technology is the ability to produce high resolution images.