Image Resolution Enhancer using Deep Learning

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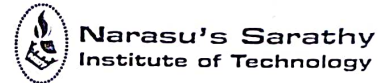sneha.mhatre@vcet.edu.in

I. Abstract:

Image Super-Resolution is a technique that is used to obtain high-resolution, realistic images from low-resolution input images. Deep learning algorithms such as SRCNN, ESRGAN, RDN, etc. have shown significant results in this field. But these algorithms at times vary in results. To solve this problem, this research study has proposed an image super-resolution by using Patch Extraction on Deep Learning Algorithm, in which the LR image is first divided into patches and then the algorithms like RDN and ESRGAN are applied. Comparing each patch from each algorithm based on PSNR values, the patch with the highest PSNR value will be selected. After picking up all the patches for that image, it will be reconstructed and hence the super-resolution image will be obtained as the output.

II. Index terms:

Computer Vision, Deep Learning, Convolutional Neural Networks, Image Super-Resolution, Residual Dense Networks, Generative Adversarial Networks, Patch Extraction

III. Introduction:

The field of Computer Vision has been developing exponentially over the last decade in terms of popularity and performance as the data processing power of computers has greatly increased and also due to the arrival of deep-learning-based algorithms. Single image Super-Resolution (SISR) is a technique wherein from a degraded low-resolution (LR), its high-resolution (HR) image is generated. It offers applications for a wide range of tasks related to computer vision, including security and surveillance imaging, astronomical images, medical images such as X-Rays, microscopic

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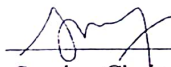This certificate is awarded to

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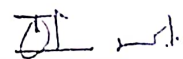for successfully presenting the paper entitled

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