**Title** - Shape inpainting using 3D generative adversarial network and recurrent convolutional networks

Abstract – Recent growth in CNN have shown unexpected results in 3D config. The only limitation being the GPU memory which results in producing LR images. They proposed a hybrid model of 3D Encoder-Decoder Generative Adversarial Network (3D-ED-GAN) with a Long-term Recurrent Convolution Network (LRCN). The motive is being usage of less GPU memory and incorporated encoder-decoder pair into a long-short term memory network. The results show that 3D-ED-GAN captures structure of a 3D shape and LRCN minimizes the grained details, hence produce a HR image.

**Introduction** – Their 3D model mimics the ability of a human to describe any 3D object and also can correct any corrupted 3D objects. Their aim was to fill the missing data or damaged portion and regenerated a completely new 3D structure., additionally predicting high-resolution shapes with fine-grained details.

**Literature Survey** – Pathak et. al. developed a context encoder in an unsupervised learning algorithm for image inpainting, the adversarial loss in their autoencoder-like network architecture shows impressive performance for image inpainting. Bansal et. al. introduced a skip-network model to retrieve 3D models for object depicted in 2D images of the CAD data used in his research. Girdhar proposed a TL-embedding network to learn an embedding space that can be generative in 3D and predictive from 2D rendered images. Wu et.al. discovered 3D Gan that can generate high-quality 3D objects. Yan et. al. formulated an encoder decoder network with a loss by predictive transformation for predicting 3D models from a single-view 2D images.