

NEURAL NETWORK POINT CLOUD GENERATION SYSTEM

ABSTRACT

A system includes one or more processors and a memory that stores a generative adversarial network (GAN). The one or more processors are configured to receive a low resolution point cloud comprising a set of three-dimensional (3D) data points that represents an object. A generator of the GAN is configured to generate a first set of generated data points based at least in part on one or more characteristics of the data points in the low resolution point cloud, and to interpolate the generated data points into the low resolution point cloud to produce a super-resolved point cloud that represents the object and has a greater resolution than the low resolution point cloud. The one or more processors are further configured to analyze the super-resolved point cloud for detecting one or more of an identity of the object or damage to the object.

[Figure 1]