Mithun Das

[Company name]  [Company address]

**Denoising 3D TEM tomography via Advanced Neural Radiance Fields**

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Additional Baseline method details

**Introduction**

**Background**

**Neural radiance field:** A fully connected neural network called a neural radiance field (NeRF) may provide inventive renderings of intricate 3D scenes from a sparse collection of 2D photos. It has been trained to replicate input views of a scene using a rendering loss. It functions by interpolating between input photos of a scene to create a single rendered scene. NeRF is a very efficient method for creating images from synthetic data (Mildenhall et al., 2020).

To render new views, a NeRF (*Neural Radiance Field (NeRF): A Gentle Introduction*, n.d.)network is trained to directly map from viewing direction and spatial location (5D input) to opacity and color (4D output). NeRF is a computationally demanding technique, and it might take hours or even days to process complex scenes. New algorithms, nevertheless, are readily available and significantly boost performance.

**Related Work**

**Preliminary**

**Method**

**Datasets:**

**Experiments**

**Results**

**Limitation and Future work**

**Discussion and Conclusion**

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