Neural Rendering Applied to Confocal Microscopy Images

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Abstract : We present a novel application of neural rendering methods to confocal microscopy. Neural rendering and implicit neural representations have developed at a remarkable pace, and are prevalent in modern 3D computer vision literature. However, they have not yet been applied to optical microscopy, an important imaging field where 3D volume information may be heavily sought after. In this paper, we employ neural rendering on confocal microscopy focus stack data and share the results. We highlight the benefits and potential of adding neural rendering to the toolkit of microscopy image processing techniques.