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## Using 3D CNNs for distortion corrections in PET imaging

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In Positron Emission Tomography the problem of image distortion due to scattered photons or accidental coincidences becomes more pronounced for large field-of-view scanners capable of measuring the whole patient in one scan. We propose a novel method of encoding coincidence event information to enhance the efficiency of noise filtration classification. The proposed encoding enables the usage of Convolutional Neural Networks as feature extractors in the classification task. We take advantage of the voxel nature of underlying data and evaluate the performance of the 3-D CNN network to classify true, scattered and accidental coincidences for imaging quality improvement with large field-of-view PET scanners.

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