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Comparison Study of Transformation Methods of Pet Raw Data Into Images for Classification Using Convolutional Neural Networks

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Convolutional Neural Networks (CNNs) have been effectively applied in many studies where crucial information about the data is embedded in the order of features (e.g. images). However, most tabular data – such as raw Positron Emission Tomography (PET) data – do not assume a spatial correlation between features, and hence are unsuitable for CNNs classification. In order to use the power of CNNs (including GPU utilization) for classification purposes of non-image data, a transformation method of 1-D vector into image has to be applied. A method comparison of transforming tabular data into input images for CNN classification will be presented. Self-organizing map and DeepInsight method were used in this study.

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