R documentation

of ‘`DigitalDLSorterDNN-class.Rd`’

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`DigitalDLSorterDNN-class`
The DigitalDLSorterDNN Class.

Description

The DigitalDLSorterDNN object stores the trained Deep Neural Network, the training history of selected metrics and the results of prediction on test data. After executing `calculateEvalMetrics`, it is alto possible to find the results of the model evaluation.

Details

The steps related with Deep Learning are carried out with `keras` package, so the model are stored in a R6 class, system used by the package. If you want to save the object in an rds file, `digitalDLSorteR` provides an `saveRDS` generic that transforms the keras model into a native valid R object. Specifically, the model is converted into a list with the architecture of the network and the weights learned during the training. The is the minimum information to use the model as predictor. If you want to maintain the optimizer state, see `saveTrainedModelAsH5` function. If you want to store an object as rda file, see `preparingToSave` function.

Slots

`model` Trained Deep Neural Network model. This slot can contain a R6 `keras.engine.sequential.Sequenti` object or a list with two elements: the architecture of the model and the resulting weights after training.

`training.history` List with the evolution of the selected metrics during training.

`eval.stats.model` Performance of the model on test data.

`predict.results` Deconvolution results matrix of test data. Columns are cell types, rows are samples and each entry is the proportion of this cell type on this sample.

`cell.types` Vector with the cell types to deconvolute.

`features` Vector with features used during training. These features will be used for the following predictions.

`eval.stats.samples` Performance of the model on each sample of test data in comparison with the known cell proportions.

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