Interfaces

Go Up

Table of Contents

IClassify

Go Up

IMPORTS

ML_Core | ML_Core.Types |

DESCRIPTIONS

MODULE IClassify

	IClassify

Interface definition for Classification. Actual implementation modules will probably take parameters.

Children

1. GetModel : Calculate the model to fit the observation data to the observed classes
2. Classify : Classify the observations using a model
3. Report : Report the confusion matrix for the classifier and training data

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FUNCTION GetModel

IClassify \

DATASET(Types.Layout_Model)	**GetModel**
(DATASET(Types.NumericField) observations, DATASET(Types.DiscreteField) classifications)	

Calculate the model to fit the observation data to the observed classes.

PARAMETER **observations** ||| TABLE (NumericField) — the observed explanatory values

PARAMETER **classifications** ||| TABLE (DiscreteField) — the observed classification used to build the model

RETURN **TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 number , REAL8 value })** — the encoded model

---

FUNCTION Classify

IClassify \

DATASET(Types.Classify_Result)	**Classify**
(DATASET(Types.Layout_Model) model, DATASET(Types.NumericField) new_observations)	

Classify the observations using a model.

PARAMETER **new_observations** ||| TABLE (NumericField) — observations to be classified

PARAMETER **model** ||| TABLE (Layout_Model) — The model, which must be produced by a corresponding getModel function.

RETURN **TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 number , INTEGER4 value , REAL8 conf })** — Classification with a confidence value

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FUNCTION Report

IClassify \

DATASET(Types.Confusion_Detail)	**Report**
(DATASET(Types.Layout_Model) model, DATASET(Types.NumericField) observations, DATASET(Types.DiscreteField) classifications)	

Report the confusion matrix for the classifier and training data.

PARAMETER **classifications** ||| TABLE (DiscreteField) — the classifications associated with the observations

PARAMETER **observations** ||| TABLE (NumericField) — the explanatory values.

PARAMETER **model** ||| TABLE (Layout_Model) — the encoded model

RETURN **TABLE ({ UNSIGNED2 wi , UNSIGNED4 classifier , INTEGER4 actual_class , INTEGER4 predict_class , UNSIGNED4 occurs , BOOLEAN correct })** — the confusion matrix showing correct and incorrect results

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ML_Core/ Interfaces/

IRegression

Go Up

IMPORTS

ML_Core | ML_Core.Types |

DESCRIPTIONS

MODULE IRegression

	IRegression
(DATASET(NumericField) X=empty_data, DATASET(NumericField) Y=empty_data)	

Interface Definition for Regression Modules Regression learns a function that maps a set of input data to one or more output variables. The resulting learned function is known as the model. That model can then be used repetitively to predict (i.e. estimate) the output value(s) based on new input data.

PARAMETER **Y** ||| TABLE (NumericField) — The dependent variable(s) in DATASET(NumericField) format. Each statistical unit (e.g. record) is identified by 'id', and each feature is identified by field number (i.e. 'number').

PARAMETER **X** ||| TABLE (NumericField) — The independent data in DATASET(NumericField) format. Each statistical unit (e.g. record) is identified by 'id', and each feature is identified by field number (i.e. 'number').

Children

1. GetModel : Calculate and return the 'learned' model The model may be persisted and later used to make predictions using 'Predict' below

2. Predict : Predict the output variable(s) based on a previously learned model

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ATTRIBUTE GetModel

IRegression \

DATASET(Layout_Model)	**GetModel**

Calculate and return the 'learned' model The model may be persisted and later used to make predictions using 'Predict' below.

RETURN **TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 number , REAL8 value })** — DATASET(LayoutModel) describing the learned model parameters

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FUNCTION Predict

IRegression \

DATASET(NumericField)	**Predict**
(DATASET(NumericField) newX, DATASET(Layout_Model) model)	

Predict the output variable(s) based on a previously learned model

PARAMETER **newX** ||| TABLE (NumericField) — DATASET(NumericField) containing the X values to b predicted.

PARAMETER **model** ||| TABLE (Layout_Model) — No Doc

RETURN **TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 number , REAL8 value })** — DATASET(NumericField) containing one entry per observation (i.e. id) in newX. This represents the predicted values for Y.
