

LogisticRegression

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Name	LogisticRegression
Version	1.0.0
Description	Logistic Regression implementation
License	http://www.apache.org/licenses/LICENSE-2.0
Copyright	Copyright (C) 2017 HPCC Systems
Authors	HPCCSystems
DependsOn	ML_Core, PBblas
Platform	6.2.0

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LogisticRegression/ BinomialConfusion

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DESCRIPTIONS

FUNCTION BinomialConfusion

<code>DATASET(Types.Binomial_Confusion_Summary)</code>	BinomialConfusion
<code>(DATASET(Core_Types.Confusion_Detail) d)</code>	

Binomial confusion matrix. Work items with multinomial responses are ignored by this function. The higher value lexically is considered to be the positive indication.

PARAMETER `d` ||| TABLE (Confusion_Detail) — confusion detail for the work item and classifier

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 classifier , UNSIGNED8 true_positive , UNSIGNED8 true_negative , UNSIGNED8 false_positive , UNSIGNED8 false_negative , UNSIGNED8 cond_pos , UNSIGNED8 pred_pos , UNSIGNED8 cond_neg , UNSIGNED8 pred_neg , REAL8 prevalence , REAL8 accuracy , REAL8 true_pos_rate , REAL8 false_neg_rate , REAL8 false_pos_rate , REAL8 true_neg_rate , REAL8 pos_pred_val , REAL8 false_disc_rate , REAL8 false_omit_rate , REAL8 neg_pred_val }) — confusion matrix for a binomial classifier

LogisticRegression/ BinomialLogisticRegression

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IMPORTS

LogisticRegression | LogisticRegression.Constants | ML_Core.Interfaces |
ML_Core.Types |

DESCRIPTIONS

MODULE BinomialLogisticRegression

	BinomialLogisticRegression
	(UNSIGNED max_iter=200, REAL8 epsilon=Constants.default_epsilon, REAL8 ridge=Constants.default_ridge)

Binomial logistic regression using iteratively re-weighted least squares.

PARAMETER ridge ||| REAL8 — a value to populate a diagonal matrix that is added to a matrix help assure that the matrix is invertible.

PARAMETER epsilon ||| REAL8 — the minimum change in the Beta value estimate to continue

PARAMETER max_iter ||| UNSIGNED8 — maximum number of iterations to try

PARENT ML_Core.Interfaces.IClassify <../ML_Core/Interfaces/IClassify.ecl.xml>

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

FUNCTION **GetModel**

[BinomialLogisticRegression](#) \

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 [classifications](#) ||| [TABLE](#) ([DiscreteField](#)) — the observed classification used to build the model

PARAMETER [observations](#) ||| [TABLE](#) ([NumericField](#)) — the observed explanatory values

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

OVERRIDE

FUNCTION **Classify**

[BinomialLogisticRegression](#) \

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

OVERLOAD

FUNCTION Report

[BinomialLogisticRegression](#) \

<code>DATASET(Types.Confusion_Detail)</code>	Report
<code>(DATASET(Types.Layout_Model) model, DATASET(Types.NumericField) observations, DATASET(Types.DiscreteField) classifications)</code>	

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

OVERLOAD

LogisticRegression/ Confusion

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IMPORTS

ML_Core | ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION Confusion

<code>DATASET(Confusion_Detail)</code>	Confusion
<code>(DATASET(DiscreteField) dependents, DATASET(DiscreteField) predicts)</code>	

Detail confusion records to compare actual versus predicted response variable values.

PARAMETER dependents ||| TABLE (DiscreteField) — the original response values

PARAMETER predicts ||| TABLE (DiscreteField) — the predicted responses

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 classifier , INTEGER4 actual_class , INTEGER4 predict_class , UNSIGNED4 occurs , BOOLEAN correct }) — confusion counts by predicted and actual response values.

LogisticRegression/ Constants

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DESCRIPTIONS

MODULE Constants

Constants

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Children

1. [limit_card](#) : No Documentation Found
2. [default_epsilon](#) : No Documentation Found
3. [default_ridge](#) : No Documentation Found
4. [local_cap](#) : No Documentation Found
5. [id_base](#) : No Documentation Found
6. [id_iters](#) : No Documentation Found
7. [id_delta](#) : No Documentation Found
8. [id_correct](#) : No Documentation Found
9. [id_incorrect](#) : No Documentation Found
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11. [id_betas](#) : No Documentation Found
12. [id_betas_coef](#) : No Documentation Found
13. [id_betas_SE](#) : No Documentation Found
14. [base_builder](#) : No Documentation Found

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- 16. [base_epsilon](#) : No Documentation Found
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- 18. [base_dep_vars](#) : No Documentation Found
- 19. [base_obs](#) : No Documentation Found
- 20. [builder_irls_local](#) : No Documentation Found
- 21. [builder_irls_global](#) : No Documentation Found
- 22. [builder_softmax](#) : No Documentation Found

ATTRIBUTE **limit_card**

[Constants](#) \

UNSIGNED2	limit_card
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No Documentation Found

RETURN UNSIGNED2 —

ATTRIBUTE **default_epsilon**

[Constants](#) \

REAL8	default_epsilon
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No Documentation Found

RETURN REAL8 —

ATTRIBUTE default_ridge

[Constants](#) \

REAL8	default_ridge
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No Documentation Found

RETURN REAL8 —

ATTRIBUTE local_cap

[Constants](#) \

UNSIGNED4	local_cap
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No Documentation Found

RETURN UNSIGNED4 —

ATTRIBUTE id_base

[Constants](#) \

	id_base
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_iters

[Constants](#) \

	id_iters
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_delta

[Constants](#) \

	id_delta
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_correct

[Constants](#) \

	id_correct
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_incorrect

[Constants](#) \

	id_incorrect
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_stat_set

[Constants](#) \

	id_stat_set
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No Documentation Found

RETURN SET (INTEGER8) —

ATTRIBUTE id_betas

[Constants](#) \

	id_betas
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_betas_coef

[Constants](#) \

	id_betas_coef
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE id_betas_SE

[Constants](#) \

	id_betas_SE
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE base_builder

[Constants](#) \

	base_builder
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE base_max_iter

[Constants](#) \

	base_max_iter
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE base_epsilon

[Constants](#) \

	base_epsilon
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE base_ind_vars

[Constants](#) \

	base_ind_vars
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE base_dep_vars

[Constants](#) \

	base_dep_vars
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE base_obs

[Constants](#) \

	base_obs
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE builder_irls_local

[Constants](#) \

	builder_irls_local
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE builder_irls_global

[Constants](#) \

	builder_irls_global
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No Documentation Found

RETURN INTEGER8 —

ATTRIBUTE builder_softmax

[Constants](#) \

	builder_softmax
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RETURN INTEGER8 —

LogisticRegression/ DataStats

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |
LogisticRegression.Constants |

DESCRIPTIONS

FUNCTION DataStats

<code>DATASET(Types.Data_Info)</code>	DataStats
<pre>(DATASET(Core_Types.NumericField) indep, DATASET(Core_Types.DiscreteField) dep, BOOLEAN field_details=FALSE)</pre>	

Information about the datasets. Without details the range for the x and y (independent and dependent) columns. Note that a column of all zero values cannot be distinguished from a missing column. When details are requested, the cardinality, minimum, and maximum values are returned. A zero cardinality is returned when the field cardinality exceeds the Constants.limit_card value.

PARAMETER indep ||| TABLE (NumericField) — data set of independent variables

PARAMETER dep ||| TABLE (DiscreteField) — data set of dependent variables

PARAMETER field_details ||| BOOLEAN — Boolean directive to provide field level info

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 dependent_fields , UNSIGNED4
dependent_records , UNSIGNED4 independent_fields , UNSIGNED4

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independent_records , UNSIGNED4 dependent_count , UNSIGNED4  
independent_count , TABLE ( Field_Desc ) dependent_stats , TABLE ( Field_Desc  
) independent_stats } ) —
```

LogisticRegression/ Deviance__Analysis

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IMPORTS

LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION Deviance__Analysis

<code>DATASET(Types.AOD_Record)</code>	Deviance__Analysis
<code>(DATASET(Types.Deviance_Record) proposed, DATASET(Types.Deviance_Record) base)</code>	

Compare deviance information for an analysis of deviance.

PARAMETER base ||| TABLE (Deviance_Record) — the base model for comparison

PARAMETER proposed ||| TABLE (Deviance_Record) — the proposed model

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 classifier , UNSIGNED8 residual_df , UNSIGNED8 df , REAL8 residual_dev , REAL8 deviance , REAL8 p_value }) — the comparison of the deviance between the models

LogisticRegression/ Deviance__Detail

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IMPORTS

ML_Core | ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION Deviance__Detail

<code>DATASET(Types.Observation_Deviance)</code>	Deviance__Detail
<code>(DATASET(Core_Types.DiscreteField) dependents, DATASET(Types.Raw_Prediction) predicts)</code>	

Detail deviance for each observation.

PARAMETER dependents ||| TABLE (DiscreteField) — original dependent records for the model

PARAMETER predicts ||| TABLE (Raw_Prediction) — the predicted values of the response variable

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 classifier ,
INTEGER4 actual , INTEGER4 predicted , REAL8 mod_ll , REAL8
mod_dev_component , REAL8 mod_dev_residual , REAL8 nil_ll , REAL8
nil_dev_component , REAL8 nil_dev_residual }) — the deviance information by
observation and the log likelihood of the predicted result.

LogisticRegression/ dimm

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IMPORTS

std.blas | std.BLAS.Types |

DESCRIPTIONS

EMBED dimm

<code>Types.matrix_t</code>	<code>dimm</code>
<pre>(BOOLEAN transposeA, BOOLEAN transposeB, BOOLEAN diagonalA, BOOLEAN diagonalB, Types.dimension_t m, Types.dimension_t n, Types.dimension_t k, Types.value_t alpha, Types.matrix_t A, Types.matrix_t B, Types.value_t beta=0.0, Types.matrix_t C=[])</pre>	

Matrix multiply when either A or B is a diagonal and is passed as a vector. $\alpha * \text{op}(A) \text{op}(B) + \beta * C$ where $\text{op}()$ is transpose

PARAMETER diagonalA ||| BOOLEAN — true when A is the diagonal matrix

PARAMETER B ||| SET (REAL8) — matrix B

PARAMETER diagonalB ||| BOOLEAN — true when B is the diagonal matrix

PARAMETER k ||| UNSIGNED4 — number of columns/rows for the multiplier/multiplicand

PARAMETER transposeA ||| BOOLEAN — true when transpose of A is used

PARAMETER m ||| UNSIGNED4 — number of rows in product

PARAMETER beta ||| REAL8 — scalar for matrix C

PARAMETER C ||| SET (REAL8) — matrix C or empty

PARAMETER alpha ||| REAL8 — scalar used on A

PARAMETER transposeB ||| BOOLEAN — true when transpose of B is used

PARAMETER A ||| SET (REAL8) — matrix A

PARAMETER n ||| UNSIGNED4 — number of columns in product

RETURN SET (REAL8) —

LogisticRegression/ Distributions

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IMPORTS

ML_Core.Constants | ML_Core.Math |

DESCRIPTIONS

MODULE Distributions

	Distributions
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Children

1. [Normal_CDF](#) : Cumulative Distribution of the standard normal distribution, the probability that a normal random variable will be smaller than x standard deviations above or below the mean
2. [Normal_PPF](#) : Normal Distribution Percentage Point Function
3. [T_CDF](#) : Students t distribution integral evaluated between negative infinity and x
4. [T_PPF](#) : Percentage point function for the T distribution
5. [Chi2_CDF](#) : The cumulative distribution function for the Chi Square distribution
6. [Chi2_PPF](#) : The Chi Squared PPF function

FUNCTION Normal_CDF

[Distributions \](#)

REAL8	Normal_CDF
(REAL8 x)	

Cumulative Distribution of the standard normal distribution, the probability that a normal random variable will be smaller than x standard deviations above or below the mean. Taken from C/C++ Mathematical Algorithms for Scientists and Engineers, n. Shamma, McGraw-Hill, 1995

PARAMETER x ||| REAL8 — the number of standard deviations

RETURN REAL8 —

FUNCTION Normal_PPF

[Distributions \](#)

REAL8	Normal_PPF
(REAL8 x)	

Normal Distribution Percentage Point Function. Translated from C/C++ Mathematical Algorithms for Scientists and Engineers, N. Shamma, McGraw-Hill, 1995

PARAMETER x ||| REAL8 — probability

RETURN REAL8 —

FUNCTION T_CDF

[Distributions \](#)

REAL8	T_CDF
(REAL8 x, REAL8 df)	

Students t distribution integral evaluated between negative infinity and x. Translated from NIST SEL DATAPAC Fortran TCDF.f source

PARAMETER x ||| REAL8 — value of the evaluation

PARAMETER df ||| REAL8 — degrees of freedom

RETURN REAL8 —

FUNCTION T_PPF

[Distributions \](#)

REAL8	T_PPF
(REAL8 x, REAL8 df)	

Percentage point function for the T distribution. Translated from NIST SEL DATAPAC Fortran TPPF.f source

PARAMETER x ||| REAL8 — No Doc

PARAMETER df ||| REAL8 — No Doc

RETURN REAL8 —

FUNCTION Chi2_CDF

[Distributions \](#)

REAL8	Chi2_CDF
(REAL8 x, REAL8 df)	

The cumulative distribution function for the Chi Square distribution. the CDF for the specied degrees of freedom. Translated from the NIST SEL DATAPAC Fortran subroutine CHSCDF.

PARAMETER x ||| REAL8 — No Doc

PARAMETER df ||| REAL8 — No Doc

RETURN REAL8 —

FUNCTION Chi2_PPF

[Distributions \](#)

REAL8	Chi2_PPF
(REAL8 x, REAL8 df)	

The Chi Squared PPF function. Translated from the NIST SEL DATAPAC Fortran subroutine CHSPPF.

PARAMETER x ||| REAL8 — No Doc

PARAMETER df ||| REAL8 — No Doc

RETURN REAL8 —

LogisticRegression/ ExtractBeta

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION ExtractBeta

ExtractBeta
(DATASET(Core_Types.Layout_Model) mod_ds)

Extract the beta values form the model dataset.

PARAMETER mod_ds ||| TABLE (Layout_Model) — the model dataset

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 ind_col , UNSIGNED4 dep_nom , REAL8 w , REAL8 SE }) — a beta values as Model Coefficient records, zero as the constant term.

LogisticRegression/ ExtractBeta_CI

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION ExtractBeta_CI

<code>DATASET(Types.Confidence_Model_Coef)</code>	<code>ExtractBeta_CI</code>
<code>(DATASET(Core_Types.Layout_Model) mod_ds, REAL8 level)</code>	

Extract the beta values form the model dataset.

PARAMETER level ||| REAL8 — the significance value for the intervals

PARAMETER mod_ds ||| TABLE (Layout_Model) — the model dataset

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 ind_col , UNSIGNED4 dep_nom , REAL8 w , REAL8 SE , REAL8 upper , REAL8 lower }) — the beta values with confidence intervals term.

LogisticRegression/ ExtractBeta_pval

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION ExtractBeta_pval

<code>DATASET(Types.pval_Model_Coef)</code>	<code>ExtractBeta_pval</code>
<code>(DATASET(Core_Types.Layout_Model) mod_ds)</code>	

Extract the beta values form the model dataset.

PARAMETER mod_ds ||| TABLE (Layout_Model) — the model dataset

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 ind_col , UNSIGNED4 dep_nom , REAL8 w , REAL8 SE , REAL8 z , REAL8 p_value }) — the beta values with p-values as Model Coefficient records, zero as the constant term.

LogisticRegression/ ExtractReport

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |
LogisticRegression.Constants |

DESCRIPTIONS

FUNCTION ExtractReport

<code>DATASET(Types.Model_Report)</code>	ExtractReport
<code>(DATASET(Core_Types.Layout_Model) mod_ds)</code>	

Extract Report records from model

PARAMETER mod_ds ||| TABLE (Layout_Model) — the model dataset

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 max_iterations , REAL8 epsilon ,
UNSIGNED4 dep_vars , UNSIGNED4 ind_vars , UNSIGNED8 obs , UNSIGNED2
builder , TABLE (Classifier_Stats) stats }) — the model report dataset

LogisticRegression/ LogitPredict

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION LogitPredict

<code>DATASET(Classify_Result)</code>	LogitPredict
<code>(DATASET(Model_Coef) coef, DATASET(NumericField) independents)</code>	

Predict the category values with the logit function and the the supplied beta coefficients.

PARAMETER `independents` ||| TABLE (NumericField) — the observations

PARAMETER `coef` ||| TABLE (Model_Coef) — the model beta coefficients

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 number ,
INTEGER4 value , REAL8 conf }) — the predicted category values and a confidence score

LogisticRegression/ LogitScore

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IMPORTS

ML_Core.Types | LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION LogitScore

<code>DATASET(Raw_Prediction)</code>	LogitScore
<code>(DATASET(Model_Coef) coef, DATASET(NumericField) independents)</code>	

Calculate the score using the logit function and the the supplied beta coefficients.

PARAMETER `independents` ||| TABLE (NumericField) — the observations

PARAMETER `coef` ||| TABLE (Model_Coef) — the model beta coefficients

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED8 id , UNSIGNED4 number , REAL8 raw }) — the raw prediction value

LogisticRegression/ Model_Deviance

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IMPORTS

LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION Model_Deviance

<code>DATASET(Types.Deviance_Record)</code>	Model_Deviance
<code>(DATASET(Types.Observation_Deviance) od, DATASET(Types.Model_Coef) mod)</code>	

Model Deviance.

PARAMETER od ||| TABLE (Observation_Deviance) — observation deviance record

PARAMETER mod ||| TABLE (Model_Coef) — model co-efficients

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 classifier , UNSIGNED8 df ,
REAL8 deviance , REAL8 AIC }) — model deviance

LogisticRegression/ Null_Deviance

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IMPORTS

LogisticRegression | LogisticRegression.Types |

DESCRIPTIONS

FUNCTION Null_Deviance

<code>DATASET(Types.Deviance_Record)</code>	Null_Deviance
<code>(DATASET(Types.Observation_Deviance) od)</code>	

Deviance for the null model, that is, a model with only an intercept.

PARAMETER od ||| TABLE (Observation_Deviance) — Observation Deviance record set.

RETURN TABLE ({ UNSIGNED2 wi , UNSIGNED4 classifier , UNSIGNED8 df , REAL8 deviance , REAL8 AIC }) — a data set of the null model deviances for each work item and classifier.

LogisticRegression/ Types

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IMPORTS

ML_Core.Types |

DESCRIPTIONS

MODULE Types

	Types
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Children

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2. [Field_Desc](#) : No Documentation Found
3. [Data_Info](#) : No Documentation Found
4. [NumericField_U](#) : No Documentation Found
5. [DiscreteField_U](#) : No Documentation Found
6. [Layout_Column_Map](#) : No Documentation Found
7. [Classifier_Stats](#) : No Documentation Found
8. [Model_Report](#) : No Documentation Found

9. [Binomial_Confusion_Summary](#) : No Documentation Found
 10. [Model_Coef](#) : No Documentation Found
 11. [Confidence_Model_Coef](#) : No Documentation Found
 12. [pval_Model_Coef](#) : No Documentation Found
 13. [Raw_Prediction](#) : No Documentation Found
 14. [Observation_Deviance](#) : No Documentation Found
 15. [Deviance_Record](#) : No Documentation Found
 16. [AOD_Record](#) : No Documentation Found
-

ATTRIBUTE t_Universe

Types \

t_Universe

No Documentation Found

RETURN UNSIGNED1 —

RECORD Field_Desc

Types \

Field_Desc

No Documentation Found

FIELD min_value ||| REAL8 — No Doc

FIELD number ||| UNSIGNED4 — No Doc

FIELD max_value ||| REAL8 — No Doc

FIELD cardinality ||| UNSIGNED4 — No Doc

RECORD Data_Info

Types \

	Data_Info
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No Documentation Found

FIELD dependent_records ||| UNSIGNED4 — No Doc

FIELD dependent_fields ||| UNSIGNED4 — No Doc

FIELD independent_count ||| UNSIGNED4 — No Doc

FIELD dependent_stats ||| TABLE (Field_Desc) — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD independent_records ||| UNSIGNED4 — No Doc

FIELD independent_fields ||| UNSIGNED4 — No Doc

FIELD independent_stats ||| TABLE (Field_Desc) — No Doc

FIELD dependent_count ||| UNSIGNED4 — No Doc

RECORD NumericField_U

Types \

	NumericField_U
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No Documentation Found

FIELD wi ||| UNSIGNED2 — No Doc

- FIELD** id ||| UNSIGNED8 — No Doc
- FIELD** number ||| UNSIGNED4 — No Doc
- FIELD** value ||| REAL8 — No Doc
- FIELD** u ||| UNSIGNED1 — No Doc

RECORD DiscreteField_U

Types \

	DiscreteField_U
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No Documentation Found

- FIELD** wi ||| UNSIGNED2 — No Doc
- FIELD** id ||| UNSIGNED8 — No Doc
- FIELD** number ||| UNSIGNED4 — No Doc
- FIELD** value ||| INTEGER4 — No Doc
- FIELD** u ||| UNSIGNED1 — No Doc

RECORD Layout_Column_Map

Types \

	Layout_Column_Map
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No Documentation Found

- FIELD** wi ||| UNSIGNED2 — No Doc
- FIELD** orig_number ||| UNSIGNED4 — No Doc
- FIELD** remap_number ||| UNSIGNED4 — No Doc

RECORD Classifier_Stats

Types \

	Classifier_Stats
--	------------------

No Documentation Found

FIELD correct ||| UNSIGNED4 — No Doc

FIELD column ||| UNSIGNED4 — No Doc

FIELD max_delta ||| REAL8 — No Doc

FIELD iterations ||| UNSIGNED4 — No Doc

FIELD incorrect ||| UNSIGNED4 — No Doc

RECORD Model_Report

Types \

	Model_Report
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No Documentation Found

FIELD obs ||| UNSIGNED8 — No Doc

FIELD builder ||| UNSIGNED2 — No Doc

FIELD dep_vars ||| UNSIGNED4 — No Doc

FIELD ind_vars ||| UNSIGNED4 — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD max_iterations ||| UNSIGNED4 — No Doc

FIELD epsilon ||| REAL8 — No Doc

FIELD stats ||| TABLE (Classifier_Stats) — No Doc

RECORD Binomial_Confusion_Summary

Types \

Binomial_Confusion_Summary

No Documentation Found

FIELD cond_pos ||| UNSIGNED8 — No Doc

FIELD true_neg_rate ||| REAL8 — No Doc

FIELD neg_pred_val ||| REAL8 — No Doc

FIELD classifier ||| UNSIGNED4 — No Doc

FIELD prevalence ||| REAL8 — No Doc

FIELD false_positive ||| UNSIGNED8 — No Doc

FIELD pos_pred_val ||| REAL8 — No Doc

FIELD true_positive ||| UNSIGNED8 — No Doc

FIELD true_pos_rate ||| REAL8 — No Doc

FIELD false_disc_rate ||| REAL8 — No Doc

FIELD pred_pos ||| UNSIGNED8 — No Doc

FIELD false_negative ||| UNSIGNED8 — No Doc

FIELD pred_neg ||| UNSIGNED8 — No Doc

FIELD accuracy ||| REAL8 — No Doc

FIELD cond_neg ||| UNSIGNED8 — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD false_pos_rate ||| REAL8 — No Doc

FIELD false_omit_rate ||| REAL8 — No Doc

FIELD false_neg_rate ||| REAL8 — No Doc

FIELD true_negative ||| UNSIGNED8 — No Doc

RECORD Model_Coef

Types \

	Model_Coef
--	------------

No Documentation Found

FIELD wi ||| UNSIGNED2 — No Doc

FIELD ind_col ||| UNSIGNED4 — No Doc

FIELD dep_nom ||| UNSIGNED4 — No Doc

FIELD w ||| REAL8 — No Doc

FIELD se ||| REAL8 — No Doc

RECORD Confidence_Model_Coef

Types \

	Confidence_Model_Coef
--	-----------------------

No Documentation Found

FIELD ind_col ||| UNSIGNED4 — No Doc

FIELD dep_nom ||| UNSIGNED4 — No Doc

FIELD upper ||| REAL8 — No Doc

FIELD se ||| REAL8 — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD lower ||| REAL8 — No Doc

FIELD w ||| REAL8 — No Doc

RECORD pval_Model_Coef

Types \

	pval_Model_Coef
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No Documentation Found

FIELD ind_col ||| UNSIGNED4 — No Doc

FIELD dep_nom ||| UNSIGNED4 — No Doc

FIELD z ||| REAL8 — No Doc

FIELD se ||| REAL8 — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD p_value ||| REAL8 — No Doc

FIELD w ||| REAL8 — No Doc

RECORD Raw_Prediction

Types \

	Raw_Prediction
--	----------------

No Documentation Found

FIELD wi ||| UNSIGNED2 — No Doc

FIELD raw ||| REAL8 — No Doc

FIELD id ||| UNSIGNED8 — No Doc

FIELD number ||| UNSIGNED4 — No Doc

RECORD Observation_Deviance

Types \

	Observation_Deviance
--	----------------------

No Documentation Found

FIELD mod_dev_residual ||| REAL8 — No Doc

FIELD predicted ||| INTEGER4 — No Doc

FIELD id ||| UNSIGNED8 — No Doc

FIELD nil_dev_component ||| REAL8 — No Doc

FIELD classifier ||| UNSIGNED4 — No Doc

FIELD mod_ll ||| REAL8 — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD nil_dev_residual ||| REAL8 — No Doc

FIELD actual ||| INTEGER4 — No Doc

FIELD mod_dev_component ||| REAL8 — No Doc

FIELD nil_ll ||| REAL8 — No Doc

RECORD Deviance_Record

Types \

	Deviance_Record
--	-----------------

No Documentation Found

FIELD wi ||| UNSIGNED2 — No Doc

FIELD deviance ||| REAL8 — No Doc

FIELD aic ||| REAL8 — No Doc

FIELD classifier ||| UNSIGNED4 — No Doc

FIELD df ||| UNSIGNED8 — No Doc

RECORD AOD_Record

Types \

AOD_Record

No Documentation Found

FIELD deviance ||| REAL8 — No Doc

FIELD classifier ||| UNSIGNED4 — No Doc

FIELD df ||| UNSIGNED8 — No Doc

FIELD wi ||| UNSIGNED2 — No Doc

FIELD p_value ||| REAL8 — No Doc

FIELD residual_df ||| UNSIGNED8 — No Doc

FIELD residual_dev ||| REAL8 — No Doc
