## **IRLS**

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## **GetModel**

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#### **IMPORTS**

ML\_Core | ML\_Core.Types | LogisticRegression | LogisticRegression.Constants | LogisticRegression.Types | LogisticRegression.IRLS |

#### **DESCRIPTIONS**

#### **FUNCTION** GetModel

### DATASET(Layout\_Model) | GetModel

(DATASET(NumericField) independents, DATASET(DiscreteField) dependents, UNSIGNED max\_iter=200, REAL8 epsilon=Constants.default\_epsilon, REAL8 ridge=Constants.default ridge)

Generate logistic regression model from training data. The size of the inputs is used to determin which work items are processed with purely local operations (the data is moved once as necessary) or with global operations supporting a work item to use multiple nodes.

PARAMETER independents the independent values

PARAMETER dependents the dependent values.

PARAMETER max\_iter maximum number of iterations to try

PARAMETER epsilon the minimum change in the Beta value estimate to continue

**PARAMETER** <u>ridge</u> a value to pupulate a diagonal matrix that is added to a matrix help assure that the matrix is invertible.

**RETURN** coefficient matrix plus model building stats

#### LogisticRegression/ IRLS/

# $GetModel\_global$

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#### **IMPORTS**

ML\_Core | ML\_Core.Types | PBblas | PBblas.Types | LogisticRegression | LogisticRegression.Constants | LogisticRegression.Types |

#### **DESCRIPTIONS**

### FUNCTION GetModel\_global

```
DATASET(Layout_Model) GetModel_global

(DATASET(NumericField) independents, DATASET(DiscreteField)
dependents, UNSIGNED max_iter=200, REAL8
epsilon=Constants.default_epsilon, REAL8
ridge=Constants.default_ridge)
```

Internal function to determine values for the model coefficients and selected statistics from building the model.

PARAMETER independents the independent values

PARAMETER dependents the dependent values

PARAMETER max\_iter maximum number of iterations to try

PARAMETER epsilon the minimum change in the Beta value estimate to continue

PARAMETER <u>ridge</u> a value to pupulate a diagonal matrix that is added to a matrix help assure that the matrix is invertible.

#### LogisticRegression/ IRLS/

## $\mathbf{GetModel\_local}$

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### **IMPORTS**

ML\_Core | ML\_Core.Types | LogisticRegression | LogisticRegression.Constants | LogisticRegression.Types | LogisticRegression.IRLS | std | std.blas |

#### **DESCRIPTIONS**

### FUNCTION GetModel\_local

DATASET(Layout\_Model) GetModel\_local

(DATASET(NumericField) independents, DATASET(DiscreteField)
dependents, UNSIGNED2 max\_iter=200, REAL8
epsilon=Constants.default\_epsilon, REAL8
ridge=Constants.default\_ridge)

Internal function to determine values for the model co-efficients and selected stats from building the model.

**PARAMETER** independents the independent values

**PARAMETER** dependents the dependent values.

PARAMETER max\_iter maximum number of iterations to try

PARAMETER epsilon the minimum change in the Beta value estimate to continue

**PARAMETER** <u>ridge</u> a value to populate a diagonal matrix that is added to a matrix help assure that the matrix is invertible.