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Name	GaussianProcessRegression
Version	1.0
Description	RFF-accelerated Gaussian Process Regression
License	SeeLICENSE.TXT
Copyright	Copyright (C) 2022 HPCC SystemsÂő
Authors	HPCCSystems
DependsOn	ML_Core
Platform	8.4.0

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DESCRIPTIONS

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Children

1. GetSession : Initialize GPR on all nodes and return a session ID to be used in the following process
2. fit : Train a RFF acclerated GPR model
3. predict : Predict using trained GPR model

GETSESSION GetSession

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INTEGER	**GetSession**
()	

Initialize GPR on all nodes and return a session ID to be used in the following process. This function needs to be called before any other process.

RETURN **INTEGER8** — sessID session ID to identify this session.

FIT fit

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DATASET(Layout_model2)	**fit**
(INTEGER session, DATASET(NumericField) x, DATASET(NumericField) y, UNSIGNED4 rff_dim = 10, REAL sigma = 1)	

Train a RFF acclerated GPR model

PARAMETER **session** ||| INTEGER8 — No Doc

PARAMETER **x** ||| TABLE (NumericField) — No Doc

PARAMETER **y** ||| TABLE (NumericField) — No Doc

PARAMETER **rff_dim** ||| UNSIGNED4 — No Doc

PARAMETER **sigma** ||| REAL8 — No Doc

RETURN **TABLE (layout_model2)** — Gaussian process regression model in Layout_model2 foramt.

SEE ML_Core.Types.Layout_Model2

PARAMS session session ID for the training process.

PARAMS x independent training data.

PARAMS y dependent training data.

PARAMS rff_dim dimesion of random fourier features.

PARAMS sigma squre root of the variance.

PREDICT predict

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DATASET(NumericField)	**predict**
(INTEGER session, DATASET(Layout_model2) mod, DATASET(NumericField) x)	

Predict using trained GPR model

PARAMETER **session** ||| INTEGER8 — No Doc

PARAMETER **mod** ||| TABLE (layout_model2) — No Doc

PARAMETER **x** ||| TABLE (NumericField) — No Doc

RETURN **TABLE (NumericField)** — prediction result in NumericField format

SEE ML_Core.Types.NumericField

PARAMS session session ID for the predicting process.

PARAMS mod trained GPR model.

PARAMS x input data for prediction.

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DESCRIPTIONS

TYPES Types

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Children

1. initParams : No Documentation Found

INITPARAMS initParams

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	initParams

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FIELD **nodeid** ||| UNSIGNED4 — No Doc

FIELD **nnodes** ||| UNSIGNED4 — No Doc
