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GPRI

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DESCRIPTIONS

GPRI GPRI

	GPRI

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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

GPRI \

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

GPRI \

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.

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.

SEE ML_Core.Types.Layout_Model2

PREDICT predict

GPRI \

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

PARAMS session session ID for the predicting process.

PARAMS mod trained GPR model.

PARAMS x input data for prediction.

SEE ML_Core.Types.NumericField

Types

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DESCRIPTIONS

TYPES Types

	Types

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Children

1. initParams : No Documentation Found

INITPARAMS initParams

Types \

	initParams

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

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

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rffGPR

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RFFGPR rffGPR

	rffGPR

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Children

1. init : No Documentation Found
2. fit : No Documentation Found
3. predict : No Documentation Found

INIT init

rffGPR \

STREAMED DATASET({INTEGER sessID})	**init**
(STREAMED DATASET(initParams) initDat, STRING wuid = WORKUNIT)	

No Documentation Found

PARAMETER **initdat** ||| TABLE (initParams) — No Doc

PARAMETER **wuid** ||| STRING — No Doc

RETURN **TABLE ({ INTEGER8 sessID })** —

FIT fit

rffGPR \

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

No Documentation Found

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

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

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

PARAMETER **dim** ||| UNSIGNED4 — No Doc

PARAMETER **sig** ||| REAL8 — No Doc

RETURN **TABLE (layout_model2)** —

PREDICT predict

rffGPR \

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

No Documentation Found

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

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

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

RETURN **TABLE (NumericField)** —

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M_dataGen

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DESCRIPTIONS

M_DATAGEN M_dataGen

a EXPORT	**M_dataGen**
(INTEGER n, INTEGER n_train)	

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PARAMETER **n** ||| INTEGER8 — No Doc

PARAMETER **n_train** ||| INTEGER8 — No Doc

Children

1. l : No Documentation Found
2. toNF : No Documentation Found
3. generateXData : No Documentation Found
4. x : No Documentation Found
5. generateYData : No Documentation Found

6. y : No Documentation Found
7. X_train : No Documentation Found
8. Y_train : No Documentation Found
9. X_test : No Documentation Found
10. Y_test : No Documentation Found

L l

M_dataGen \

	l

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FIELD **x** ||| SET (REAL8) — No Doc

TONF toNF

M_dataGen \

	toNF
(set of REAL input)	

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PARAMETER **input** ||| SET (REAL8) — No Doc

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

GENERATEXDATA generateXData

M_dataGen \

set of real	generateXData
(INTEGER n)	

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PARAMETER **n** ||| INTEGER8 — No Doc

RETURN **SET (REAL8)** —

X x

M_dataGen \

	x

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GENERATEYDATA generateYData

M_dataGen \

set of real	generateYData
(set of real x_data)	

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PARAMETER **x_data** ||| SET (REAL8) — No Doc

RETURN **SET (REAL8)** —

Y y

M_dataGen \

	y

No Documentation Found

X_TRAIN X_train

M_dataGen \

; EXPORT	**X_train**

No Documentation Found

Y_TRAIN Y_train

M_dataGen \

; EXPORT	**Y_train**

No Documentation Found

X_TEST X_test

M_dataGen \

; EXPORT	**X_test**

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Y_TEST Y_test

M_dataGen \

; EXPORT	**Y_test**

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pyGPR

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DESCRIPTIONS

PYGPR pyGPR

DATASET(NumericField)	**pyGPR**
(DATASET(NumericField) x, DATASET(NumericField) y)	

No Documentation Found

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

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

RETURN **TABLE (NumericField)** —

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score

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DESCRIPTIONS

SCORE score

	score
	`(DATASET(NumericField) X=empty_data, DATASET(NumericField) y=empty_data, DATASET(NumericField) Yhat=empty_data)`

No Documentation Found

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

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

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

Children

1. sumX : No Documentation Found
2. sumy : No Documentation Found

3. sumYY : No Documentation Found
4. n : No Documentation Found
5. x2 : No Documentation Found
6. sumX2 : No Documentation Found
7. y2 : No Documentation Found
8. sumY2 : No Documentation Found
9. p1 : No Documentation Found
10. p2 : No Documentation Found
11. r : No Documentation Found
12. r2 : No Documentation Found

SUMX sumX

score \

	sumX

No Documentation Found

RETURN **REAL8** —

SUMY sumy

score \

	sumy

No Documentation Found

RETURN **REAL8** —

SUMYY sumYY

score \

	sumYY

No Documentation Found

RETURN **REAL8** —

N n

score \

	n

No Documentation Found

RETURN **INTEGER8** —

X2 x2

score \

	x2

No Documentation Found

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

SUMX2 sumX2

score \

	sumX2

No Documentation Found

RETURN REAL8 —

Y2 y2

score \

	y2

No Documentation Found

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

SUMY2 sumY2

score \

	sumY2

No Documentation Found

RETURN REAL8 —

P1 p1

score \

	p1

No Documentation Found

RETURN **REAL8** —

P2 p2

score \

	p2

No Documentation Found

RETURN **REAL8** —

R r

score \

	r

No Documentation Found

RETURN **REAL8** —

R2 r2

score \

	r2

No Documentation Found

RETURN **REAL8** —
