libFM

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This inheritance list is sorted roughly, but not completely, alphabetically:

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Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

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3.1 File List

Here is a list of all files with brief descriptions:

Chapter 4

Class Documentation

4.1 Data Class Reference

`#include <Data.h>`

Public Member Functions

- **Data** (uint64 **cache_size**, bool **has_x**, bool **has_xt**)
- void **load** (std::string filename)
- void **debug** ()
- void **create_data_t** ()

Public Attributes

- LargeSparseMatrix< **DATA_FLOAT** > * **data_t**
- LargeSparseMatrix< **DATA_FLOAT** > * **data**
- DVector< **DATA_FLOAT** > **target**
- int **num_feature**
- uint **num_cases**
- **DATA_FLOAT** **min_target**
- **DATA_FLOAT** **max_target**

Protected Attributes

- uint64 **cache_size**
- bool **has_xt**
- bool **has_x**

4.1.1 Constructor & Destructor Documentation

4.1.1.1 Data::Data (uint64 *cache_size*, bool *has_x*, bool *has_xt*) [inline]

4.1.2 Member Function Documentation

4.1.2.1 void Data::create_data_t ()

Here is the caller graph for this function:

4.1.2.2 void Data::debug ()

4.1.2.3 void Data::load (std::string *filename*)

Here is the call graph for this function:

4.1.3 Member Data Documentation

4.1.3.1 uint64 Data::cache_size [protected]

4.1.3.2 LargeSparseMatrix<DATA_FLOAT>* Data::data

4.1.3.3 LargeSparseMatrix<DATA_FLOAT>* Data::data_t

4.1.3.4 bool Data::has_x [protected]

4.1.3.5 bool Data::has_xt [protected]

4.1.3.6 DATA_FLOAT Data::max_target

4.1.3.7 DATA_FLOAT Data::min_target

4.1.3.8 uint Data::num_cases

4.1.3.9 int Data::num_feature

4.1.3.10 DVector<DATA_FLOAT> Data::target

The documentation for this class was generated from the following file:

- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**Data.h**

4.2 DataMetaInfo Class Reference

`#include <Data.h>`

Public Member Functions

- **DataMetaInfo** (uint num_attributes)
- void **loadGroupsFromFile** (std::string filename)
- void **debug** ()

Public Attributes

- DVector< uint > **attr_group**
- uint **num_attr_groups**
- DVector< uint > **num_attr_per_group**

4.2.1 Constructor & Destructor Documentation

4.2.1.1 DataMetaInfo::DataMetaInfo (uint *num_attributes*) [inline]

4.2.2 Member Function Documentation

4.2.2.1 void DataMetaInfo::debug () [inline]

4.2.2.2 void DataMetaInfo::loadGroupsFromFile (std::string *filename*) [inline]

4.2.3 Member Data Documentation

4.2.3.1 DVector<uint> DataMetaInfo::attr_group

4.2.3.2 uint DataMetaInfo::num_attr_groups

4.2.3.3 DVector<uint> DataMetaInfo::num_attr_per_group

The documentation for this class was generated from the following file:

- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**Data.h**

4.3 e_q_term Struct Reference

`#include <fm_learn_mcmc.h>`

Public Attributes

- double **e**
- double **q**

4.3.1 Member Data Documentation

4.3.1.1 double e_q_term::e

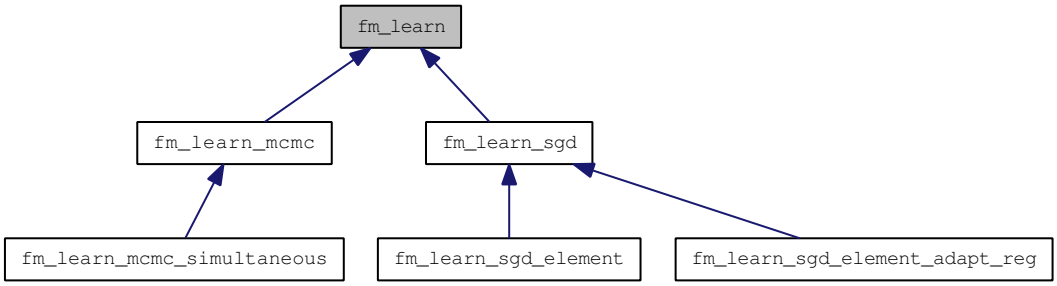
4.3.1.2 double e_q_term::q

The documentation for this struct was generated from the following file:

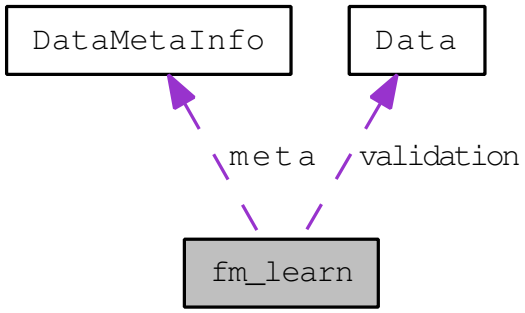
- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn_mcmc.h**

4.4 fm_learn Class Reference

`#include <fm_learn.h>`Inheritance diagram for fm_learn:



Collaboration diagram for fm_learn:



Public Member Functions

- **fm_learn** ()
- virtual void **init** ()
- virtual double **evaluate** (**Data** &data)
- virtual void **learn** (**Data** &train, **Data** &test)
- virtual void **predict** (**Data** &data, DVector< double > &out)=0
- virtual void **debug** ()

Public Attributes

- **DataMetaInfo** * **meta**
- fm_model * **fm**
- double **min_target**
- double **max_target**
- int **task**
- **Data** * **validation**
- RLog * **log**

Static Public Attributes

- static const int **TASK_REGRESSION** = 0
- static const int **TASK_CLASSIFICATION** = 1

Protected Member Functions

- virtual double **predict_case** (**Data** &data)
- virtual double **evaluate_classification** (**Data** &data)
- virtual double **evaluate_regression** (**Data** &data)

4.4.1 Constructor & Destructor Documentation

4.4.1.1 fm_learn::fm_learn () [inline]

4.4.2 Member Function Documentation

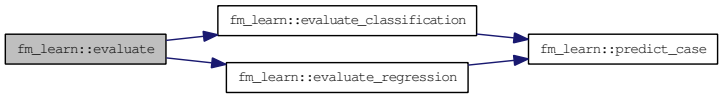
4.4.2.1 virtual void fm_learn::debug () [inline, virtual]

Reimplemented in **fm_learn_mcmc** (p. 18), **fm_learn_sgd** (p. 30), and **fm_learn_sgd_element_adapt_reg** (p. 35).

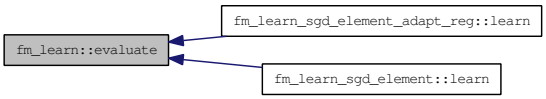
4.4.2.2 virtual double fm_learn::evaluate (Data & *data*) [inline, virtual]

Reimplemented in **fm_learn_mcmc** (p. 21).

Here is the call graph for this function:



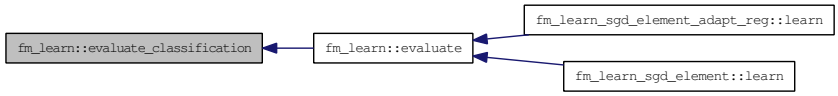
Here is the caller graph for this function:



4.4.2.3 virtual double fm_learn::evaluate_classification (Data & *data*) [inline, protected, virtual]

Here is the call graph for this function:

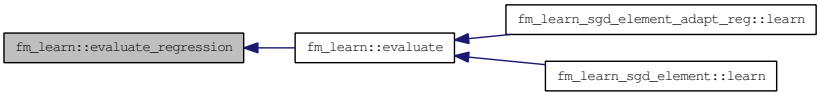
Here is the caller graph for this function:



4.4.2.4 virtual double fm_learn::evaluate_regression (Data & *data*) [inline, protected, virtual]

Here is the call graph for this function:

Here is the caller graph for this function:



4.4.2.5 virtual void fm_learn::init () [inline, virtual]

Reimplemented in **fm_learn_mcmc** (p. 21), **fm_learn_sgd** (p. 30), **fm_learn_sgd_element** (p. 33), and **fm_learn_sgd_element_adapt_reg** (p. 35).

4.4.2.6 virtual void fm_learn::learn (Data & *train*, Data & *test*) [inline, virtual]

Reimplemented in **fm_learn_mcmc** (p. 21), **fm_learn_sgd** (p. 30), **fm_learn_sgd_element** (p. 33), and **fm_learn_sgd_element_adapt_reg** (p. 35).

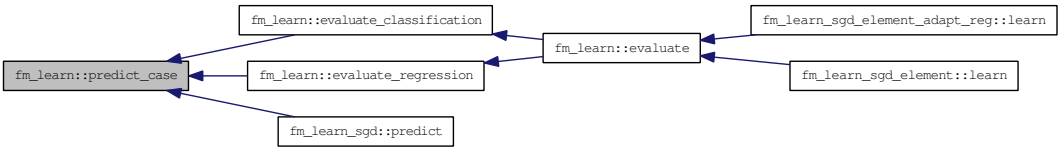
4.4.2.7 virtual void fm_learn::predict (Data & *data*, DVector< double > & *out*) [pure virtual]

Implemented in **fm_learn_mcmc** (p. 21), and **fm_learn_sgd** (p. 30).

4.4.2.8 virtual double fm_learn::predict_case (Data & *data*) [inline, protected, virtual]

Reimplemented in **fm_learn_mcmc** (p. 21).

Here is the caller graph for this function:



4.4.3 Member Data Documentation

4.4.3.1 fm_model* fm_learn::fm

4.4.3.2 RLog* fm_learn::log

4.4.3.3 double fm_learn::max_target

4.4.3.4 DataMetaInfo* fm_learn::meta

4.4.3.5 double fm_learn::min_target

4.4.3.6 int fm_learn::task

4.4.3.7 const int fm_learn::TASK_CLASSIFICATION = 1 [static]

4.4.3.8 const int fm_learn::TASK_REGRESSION = 0 [static]

4.4.3.9 Data* fm_learn::validation

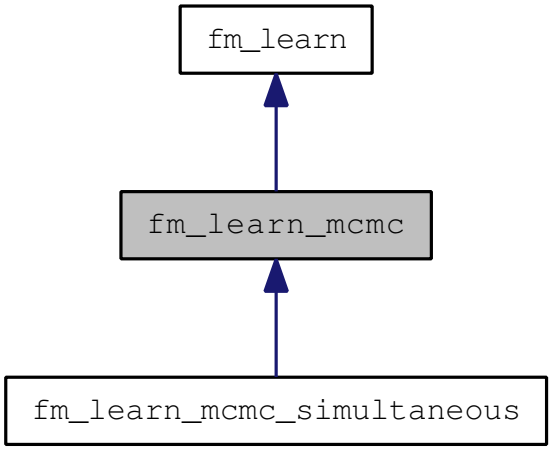
Reimplemented in **fm_learn_sgd_element_adapt_reg** (p. 37).

The documentation for this class was generated from the following file:

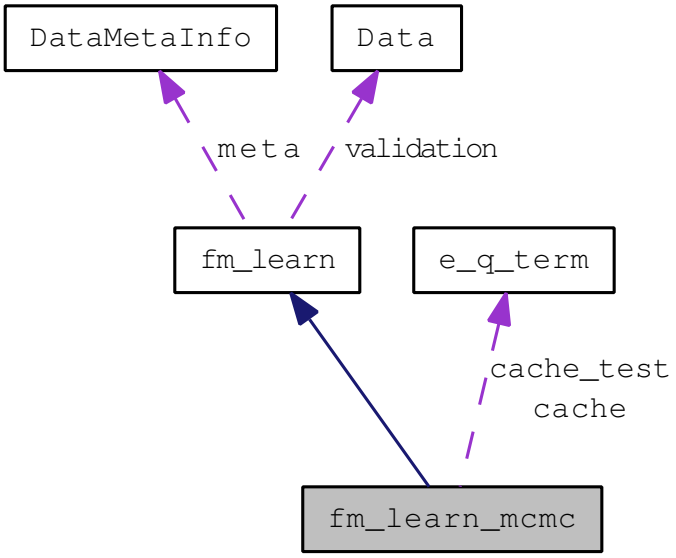
- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn.h**

4.5 fm_learn_mcmc Class Reference

`#include <fm_learn_mcmc.h>`Inheritance diagram for fm_learn_mcmc:



Collaboration diagram for fm_learn_mcmc:



Public Member Functions

- virtual double **evaluate** (**Data** &data)
- virtual void **predict** (**Data** &data, DVector< double > &out)
- virtual void **init** ()

- virtual void **learn** (**Data** &train, **Data** &test)
- virtual void **debug** ()

Public Attributes

- uint **num_iter**
- uint **num_eval_cases**
- double **alpha_0**
- double **gamma_0**
- double **beta_0**
- double **mu_0**
- double **alpha**
- double **w0_mean_0**
- DVector< double > **w_mu**
- DVector< double > **w_lambda**
- DMatrix< double > **v_mu**
- DMatrix< double > **v_lambda**
- bool **do_sample**
- bool **do_multilevel**
- uint **nan_cntr_v**
- uint **nan_cntr_w**
- uint **nan_cntr_w0**
- uint **nan_cntr_alpha**
- uint **nan_cntr_w_mu**
- uint **nan_cntr_w_lambda**
- uint **nan_cntr_v_mu**
- uint **nan_cntr_v_lambda**
- uint **inf_cntr_v**
- uint **inf_cntr_w**
- uint **inf_cntr_w0**
- uint **inf_cntr_alpha**
- uint **inf_cntr_w_mu**
- uint **inf_cntr_w_lambda**
- uint **inf_cntr_v_mu**
- uint **inf_cntr_v_lambda**

Protected Member Functions

- virtual double **predict_case** (**Data** &data)
- virtual void **_learn** (**Data** &train, **Data** &test)
- void **predict_data_and_write_to_eterms** (DVector< **Data** * > &main_data, DVector< **e_q_term** * > &main_cache)
- void **add_main_q** (**Data** &train, uint f)
- void **draw_all** (**Data** &train)
- void **draw_w0** (double &w0, double &reg, **Data** &train)

- void **draw_w** (double &w, double &**w_mu**, double &**w_lambda**, sparse_row< **DATA_FLOAT** > &feature_data)
- void **draw_v** (double &v, double &**v_mu**, double &**v_lambda**, sparse_row< **DATA_FLOAT** > &feature_data)
- void **draw_alpha** (double &**alpha**, uint num_train_total)
- void **draw_w_mu** (double *w)
- void **draw_w_lambda** (double *w)
- void **draw_v_mu** ()
- void **draw_v_lambda** ()

Protected Attributes

- DVector< double > **cache_for_group_values**
- DVector< double > **pred_sum_all**
- DVector< double > **pred_sum_all_but5**
- DVector< double > **pred_this**
- **e_q_term** * **cache**
- **e_q_term** * **cache_test**
- sparse_row< **DATA_FLOAT** > **empty_data_row**

4.5.1 Member Function Documentation

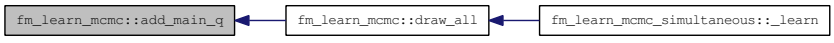
4.5.1.1 virtual void fm_learn_mcmc::_learn (Data & *train*, Data & *test*) [inline, protected, virtual]

Reimplemented in **fm_learn_mcmc_simultaneous** (p. 28).

Here is the caller graph for this function:

4.5.1.2 void fm_learn_mcmc::add_main_q (Data & *train*, uint *f*) [inline, protected]

Here is the caller graph for this function:

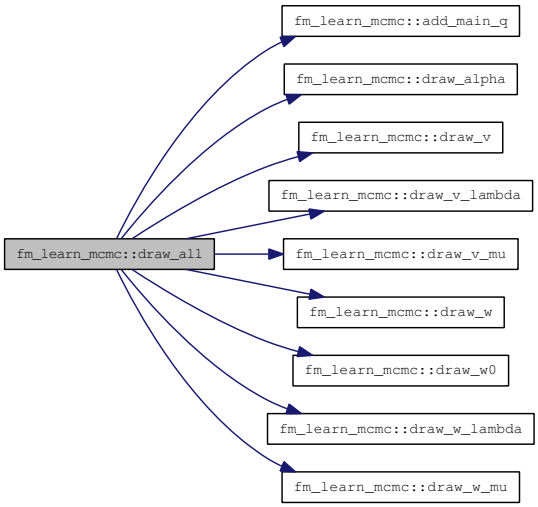


4.5.1.3 virtual void fm_learn_mcmc::debug () [inline, virtual]

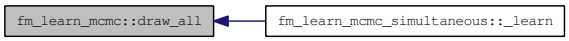
Reimplemented from **fm_learn** (p. 13).

4.5.1.4 void fm_learn_mcmc::draw_all (Data & *train*) [inline, protected]

Here is the call graph for this function:

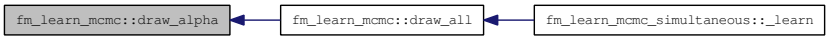


Here is the caller graph for this function:



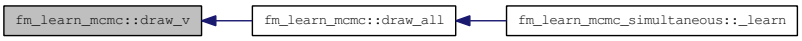
4.5.1.5 void fm_learn_mcmc::draw_alpha (double & *alpha*, uint *num_train_total*) [inline, protected]

Here is the caller graph for this function:



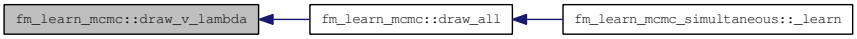
4.5.1.6 void fm_learn_mcmc::draw_v (double & *v*, double & *v_mu*, double & *v_lambda*, sparse_row< DATA_FLOAT > & *feature_data*) [inline, protected]

Here is the caller graph for this function:



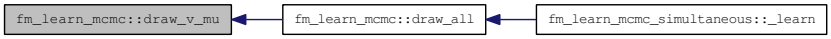
4.5.1.7 void fm_learn_mcmc::draw_v_lambda () [inline, protected]

Here is the caller graph for this function:



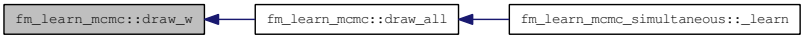
4.5.1.8 void fm_learn_mcmc::draw_v_mu () [inline, protected]

Here is the caller graph for this function:



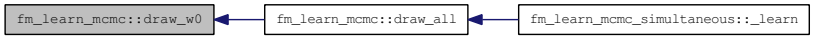
4.5.1.9 void fm_learn_mcmc::draw_w (double & *w*, double & *w_mu*, double & *w_lambda*, sparse_row< DATA_FLOAT > & *feature_data*) [inline, protected]

Here is the caller graph for this function:



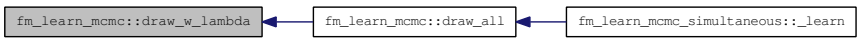
4.5.1.10 void fm_learn_mcmc::draw_w0 (double & *w0*, double & *reg*, Data & *train*) [inline, protected]

Here is the caller graph for this function:



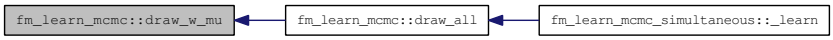
4.5.1.11 void fm_learn_mcmc::draw_w_lambda (double * *w*) [inline, protected]

Here is the caller graph for this function:



4.5.1.12 void fm_learn_mcmc::draw_w_mu (double * *w*) [inline, protected]

Here is the caller graph for this function:



4.5.1.13 virtual double fm_learn_mcmc::evaluate (Data & *data*) [inline, virtual]

Reimplemented from **fm_learn** (p. 13).

4.5.1.14 virtual void fm_learn_mcmc::init () [inline, virtual]

Reimplemented from **fm_learn** (p. 14).

4.5.1.15 virtual void fm_learn_mcmc::learn (Data & *train*, Data & *test*) [inline, virtual]

Reimplemented from **fm_learn** (p. 14).

Here is the call graph for this function:

4.5.1.16 virtual void fm_learn_mcmc::predict (Data & *data*, DVector< double > & *out*) [inline, virtual]

Implements **fm_learn** (p. 15).

4.5.1.17 virtual double fm_learn_mcmc::predict_case (Data & *data*) [inline, protected, virtual]

Reimplemented from **fm_learn** (p. 15).

4.5.1.18 void fm_learn_mcmc::predict_data_and_write_to_eterms (DVector< Data * > & *main_data*, DVector< e_q_term * > & *main_cache*) [inline, protected]

This function predicts all datasets mentioned in main_data. It stores the prediction in the e-term.

Here is the caller graph for this function:

4.5.2 Member Data Documentation

4.5.2.1 double fm_learn_mcmc::alpha

4.5.2.2 double fm_learn_mcmc::alpha_0

4.5.2.3 double fm_learn_mcmc::beta_0

4.5.2.4 e_q_term* fm_learn_mcmc::cache [protected]

4.5.2.5 DVector<double> fm_learn_mcmc::cache_for_group_values [protected]

4.5.2.6 e_q_term* fm_learn_mcmc::cache_test [protected]

4.5.2.7 bool fm_learn_mcmc::do_multilevel

4.5.2.8 bool fm_learn_mcmc::do_sample

4.5.2.9 sparse_row<DATA_FLOAT> fm_learn_mcmc::empty_data_row [protected]

4.5.2.10 double fm_learn_mcmc::gamma_0

4.5.2.11 uint fm_learn_mcmc::inf_cntr_alpha

4.5.2.12 uint fm_learn_mcmc::inf_cntr_v

4.5.2.13 uint fm_learn_mcmc::inf_cntr_v_lambda

4.5.2.14 uint fm_learn_mcmc::inf_cntr_v_mu

4.5.2.15 uint fm_learn_mcmc::inf_cntr_w

4.5.2.16 uint fm_learn_mcmc::inf_cntr_w0

4.5.2.17 uint fm_learn_mcmc::inf_cntr_w_lambda

4.5.2.18 uint fm_learn_mcmc::inf_cntr_w_mu

4.5.2.19 double fm_learn_mcmc::mu_0

4.5.2.20 uint fm_learn_mcmc::nan_cntr_alpha

4.5.2.21 uint fm_learn_mcmc::nan_cntr_v

4.5.2.22 uint fm_learn_mcmc::nan_cntr_v_lambda

4.5.2.23 uint fm_learn_mcmc::nan_cntr_v_mu

4.5.2.24 uint fm_learn_mcmc::nan_cntr_w

4.5.2.25 uint fm_learn_mcmc::nan_cntr_w0

4.5.2.26 uint fm_learn_mcmc::nan_cntr_w_lambda

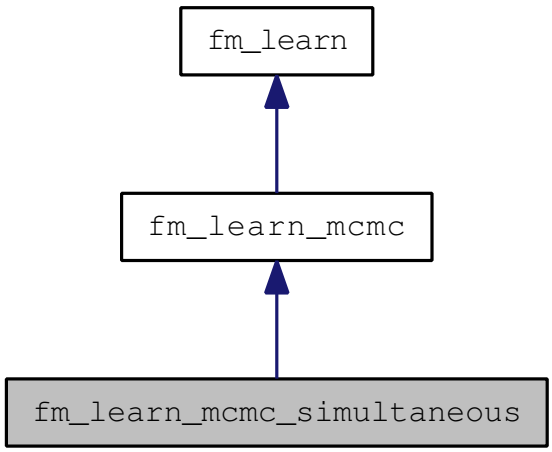
4.5.2.27 uint fm_learn_mcmc::nan_cntr_w_mu

4.5.2.28 uint fm_learn_mcmc::num_eval_cases

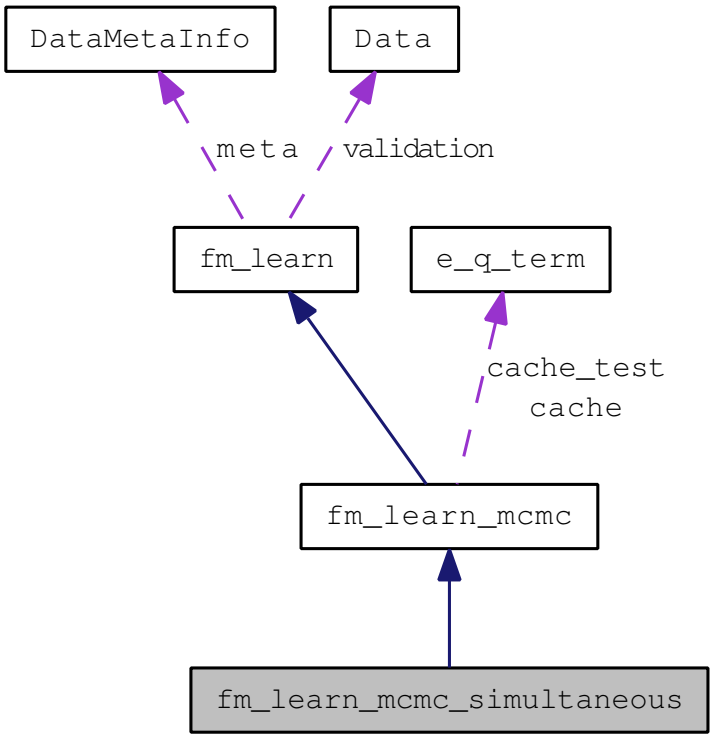
- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn_mcmc.h**

4.6 fm_learn_mcmc_simultaneous Class Reference

`#include <fm_learn_mcmc_simultaneous.h>`Inheritance diagram for fm_learn_mcmc_simultaneous:



Collaboration diagram for fm_learn_mcmc_simultaneous:



Protected Member Functions

- virtual void **_learn** (**Data** &train, **Data** &test)
- void **_evaluate** (DVector< double > &pred, DVector< **DATA_FLOAT** > &target, double normalizer, double &rmse, double &mae, uint from_case, uint to_case)
- void **_evaluate_class** (DVector< double > &pred, DVector< **DATA_FLOAT** > &target, double normalizer, double &accuracy, double &log-likelihood, uint from_case, uint to_case)
- void **_evaluate** (DVector< double > &pred, DVector< **DATA_FLOAT** > &target, double normalizer, double &rmse, double &mae, uint &**num_eval_cases**)
- void **_evaluate_class** (DVector< double > &pred, DVector< **DATA_FLOAT** > &target, double normalizer, double &accuracy, double &log-likelihood, uint &**num_eval_cases**)

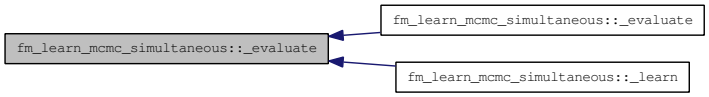
4.6.1 Member Function Documentation

4.6.1.1 void fm_learn_mcmc_simultaneous::_evaluate (DVector< double > & *pred*, DVector< DATA_FLOAT > & *target*, double *normalizer*, double & *rmse*, double & *mae*, uint & *num_eval_cases*) [inline, protected]

Here is the call graph for this function:

4.6.1.2 void fm_learn_mcmc_simultaneous::_evaluate (DVector< double > & *pred*, DVector< DATA_FLOAT > & *target*, double *normalizer*, double & *rmse*, double & *mae*, uint *from_case*, uint *to_case*) [inline, protected]

Here is the caller graph for this function:

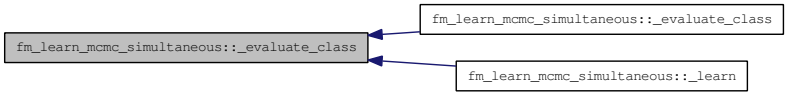


4.6.1.3 void fm_learn_mcmc_simultaneous::_evaluate_class (DVector< double > & *pred*, DVector< DATA_FLOAT > & *target*, double *normalizer*, double & *accuracy*, double & *loglikelihood*, uint & *num_eval_cases*) [inline, protected]

Here is the call graph for this function:

4.6.1.4 void fm_learn_mcmc_simultaneous::_evaluate_class (DVector< double > & *pred*, DVector< DATA_FLOAT > & *target*, double *normalizer*, double & *accuracy*, double & *loglikelihood*, uint *from_case*, uint *to_case*) [inline, protected]

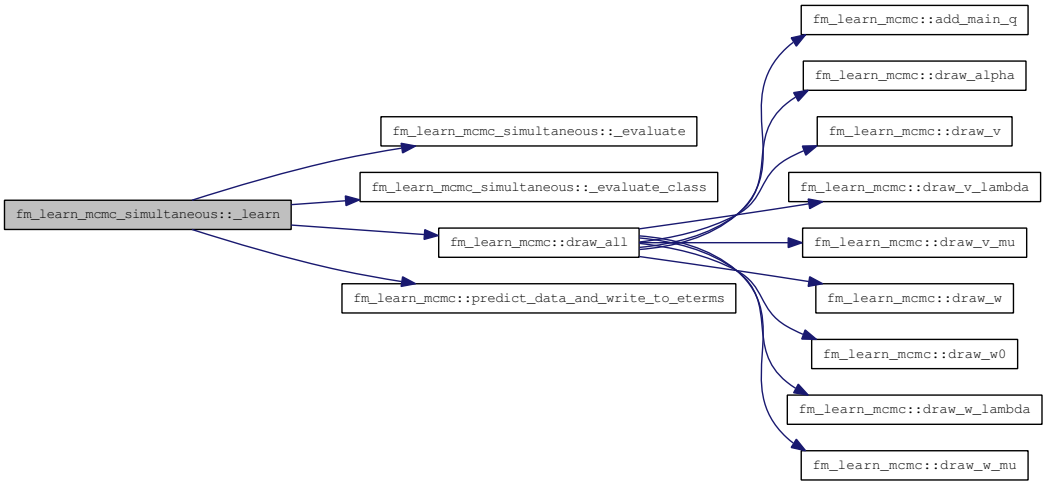
Here is the caller graph for this function:



4.6.1.5 virtual void fm_learn_mcmc_simultaneous::_learn (Data & *train*, Data & *test*) [inline, protected, virtual]

Reimplemented from **fm_learn_mcmc** (p. 18).

Here is the call graph for this function:

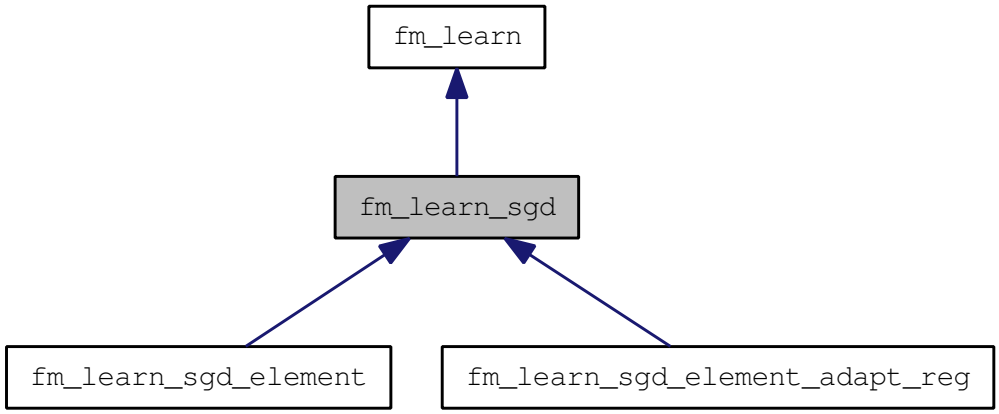


The documentation for this class was generated from the following file:

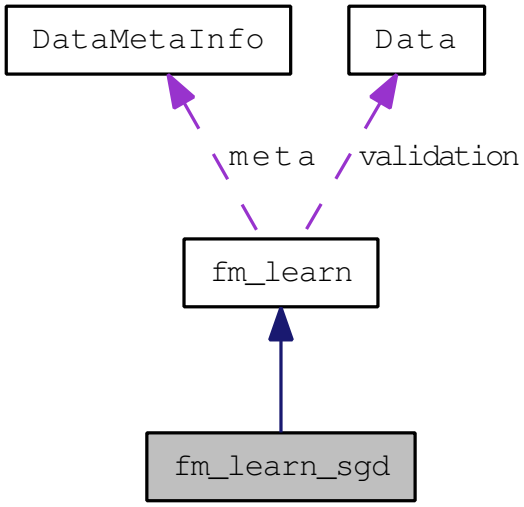
- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn_mcmc_simultaneous.h**

4.7 fm_learn_sgd Class Reference

`#include <fm_learn_sgd.h>`Inheritance diagram for fm_learn_sgd:



Collaboration diagram for fm_learn_sgd:



Public Member Functions

- virtual void **init** ()
- virtual void **learn** (**Data** &train, **Data** &test)
- void **SGD** (sparse_row< **DATA_FLOAT** > &x, const double multiplier, DVector< double > &**sum**)
- void **debug** ()
- virtual void **predict** (**Data** &data, DVector< double > &out)

Public Attributes

- int **num_iter**
- double **learn_rate**
- DVector< double > **learn_rates**

Protected Attributes

- DVector< double > **sum**
- DVector< double > **sum_sqr**

4.7.1 Member Function Documentation

4.7.1.1 void fm_learn_sgd::debug () [inline, virtual]

Reimplemented from **fm_learn** (p. 13).

Reimplemented in **fm_learn_sgd_element_adapt_reg** (p. 35).

4.7.1.2 virtual void fm_learn_sgd::init () [inline, virtual]

Reimplemented from **fm_learn** (p. 14).

Reimplemented in **fm_learn_sgd_element** (p. 33), and **fm_learn_sgd_element_adapt_reg** (p. 35).

4.7.1.3 virtual void fm_learn_sgd::learn (Data & *train*, Data & *test*) [inline, virtual]

Reimplemented from **fm_learn** (p. 14).

Reimplemented in **fm_learn_sgd_element** (p. 33), and **fm_learn_sgd_element_adapt_reg** (p. 35).

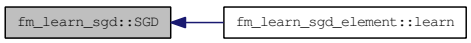
4.7.1.4 virtual void fm_learn_sgd::predict (Data & *data*, DVector< double > & *out*) [inline, virtual]

Implements **fm_learn** (p. 15).

Here is the call graph for this function:

4.7.1.5 void fm_learn_sgd::SGD (sparse_row< DATA_FLOAT > & *x*, const double *multiplier*, DVector< double > & *sum*) [inline]

Here is the caller graph for this function:



4.7.2 Member Data Documentation

4.7.2.1 double fm_learn_sgd::learn_rate

4.7.2.2 DVector<double> fm_learn_sgd::learn_rates

4.7.2.3 int fm_learn_sgd::num_iter

4.7.2.4 DVector<double> fm_learn_sgd::sum [protected]

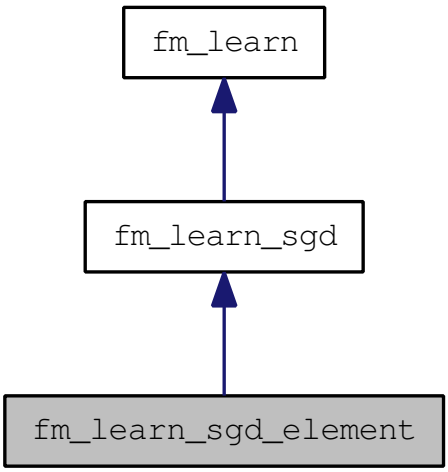
4.7.2.5 DVector<double> fm_learn_sgd::sum_sqr [protected]

The documentation for this class was generated from the following file:

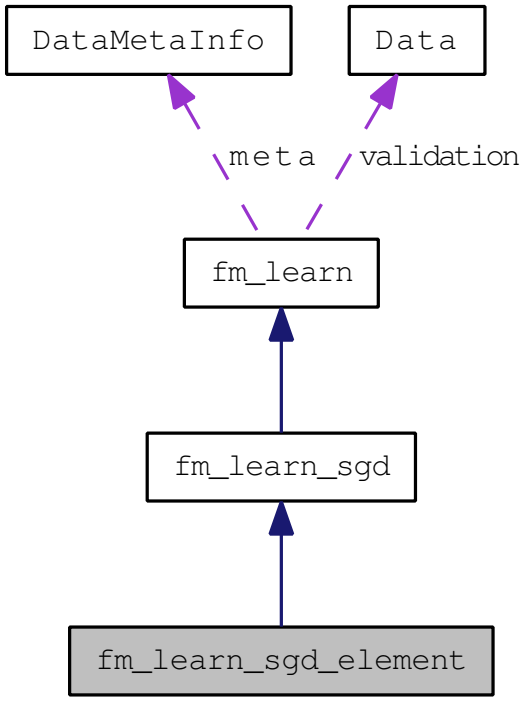
- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn_sgd.h**

4.8 fm_learn_sgd_element Class Reference

`#include <fm_learn_sgd_element.h>`Inheritance diagram for fm_learn_sgd_element:



Collaboration diagram for fm_learn_sgd_element:



Public Member Functions

- virtual void **init** ()
- virtual void **learn** (**Data** &train, **Data** &test)

4.8.1 Member Function Documentation

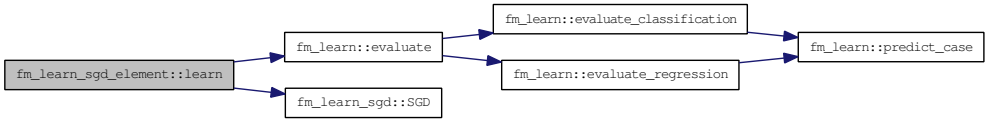
4.8.1.1 virtual void fm_learn_sgd_element::init () [inline, virtual]

Reimplemented from **fm_learn_sgd** (p. 30).

4.8.1.2 virtual void fm_learn_sgd_element::learn (Data & *train*, Data & *test*) [inline, virtual]

Reimplemented from **fm_learn_sgd** (p. 30).

Here is the call graph for this function:

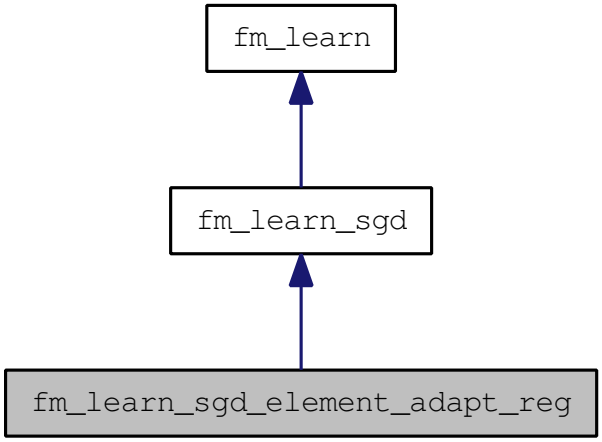


The documentation for this class was generated from the following file:

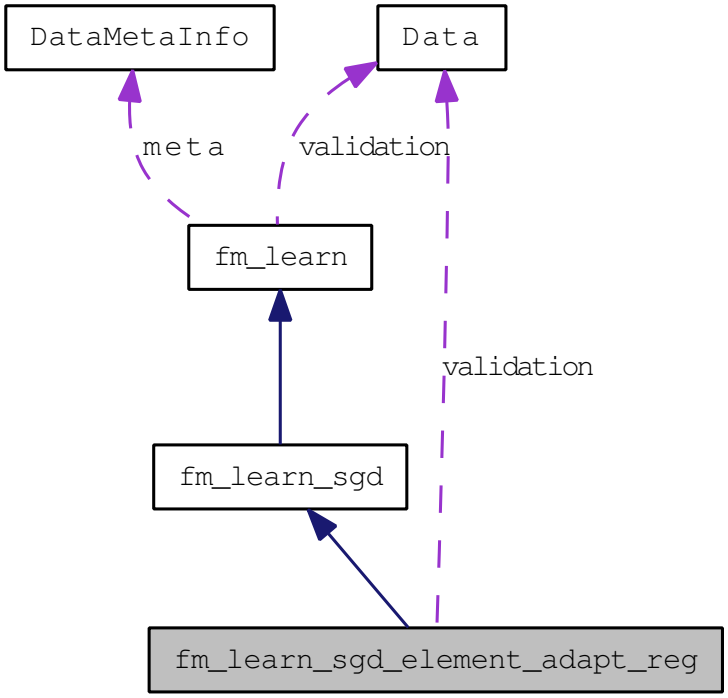
- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn_sgd_element.h**

4.9 fm_learn_sgd_element_adapt_reg Class Reference

`#include <fm_learn_sgd_element_adapt_reg.h>`Inheritance diagram for fm_learn_sgd_element_adapt_reg:



Collaboration diagram for fm_learn_sgd_element_adapt_reg:



Public Member Functions

- virtual void **init** ()
- void **sgd_theta_step** (sparse_row< FM_FLOAT > &x, const **DATA_FLOAT** target)
- double **predict_scaled** (sparse_row< FM_FLOAT > &x)
- void **sgd_lambda_step** (sparse_row< FM_FLOAT > &x, const **DATA_FLOAT** target)
- void **update_means** ()
- virtual void **learn** (**Data** &train, **Data** &test)
- void **debug** ()

Public Attributes

- double **reg_0**
- DVector< double > **reg_w**
- DMatrix< double > **reg_v**
- double **mean_w**
- double **var_w**
- DVector< double > **mean_v**
- DVector< double > **var_v**
- DVector< double > **grad_w**
- DMatrix< double > **grad_v**
- **Data** * **validation**
- DVector< double > **lambda_w_grad**
- DVector< double > **sum_f**
- DVector< double > **sum_f_dash_f**

4.9.1 Member Function Documentation

4.9.1.1 void fm_learn_sgd_element_adapt_reg::debug () [inline, virtual]

Reimplemented from **fm_learn_sgd** (p. 30).

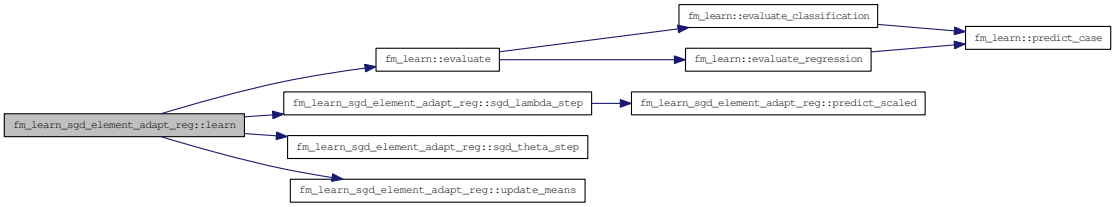
4.9.1.2 virtual void fm_learn_sgd_element_adapt_reg::init () [inline, virtual]

Reimplemented from **fm_learn_sgd** (p. 30).

4.9.1.3 virtual void fm_learn_sgd_element_adapt_reg::learn (Data & *train*, Data & *test*) [inline, virtual]

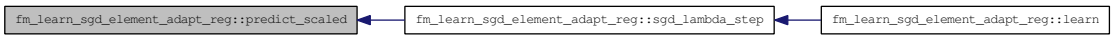
Reimplemented from **fm_learn_sgd** (p. 30).

Here is the call graph for this function:



4.9.1.4 double fm_learn_sgd_element_adapt_reg::predict_scaled (sparse_row< FM_FLOAT > & *x*) [inline]

Here is the caller graph for this function:



4.9.1.5 void fm_learn_sgd_element_adapt_reg::sgd_lambda_step (sparse_row< FM_FLOAT > & *x*, const DATA_FLOAT *target*) [inline]

Here is the call graph for this function:

Here is the caller graph for this function:

4.9.1.6 void fm_learn_sgd_element_adapt_reg::sgd_theta_step (sparse_row< FM_FLOAT > & *x*, const DATA_FLOAT *target*) [inline]

Here is the caller graph for this function:

4.9.1.7 void fm_learn_sgd_element_adapt_reg::update_means () [inline]

Here is the caller graph for this function:

4.9.2 Member Data Documentation

4.9.2.1 DMatrix<double> fm_learn_sgd_element_adapt_reg::grad_v

4.9.2.2 DVector<double> fm_learn_sgd_element_adapt_reg::grad_w

4.9.2.3 DVector<double> fm_learn_sgd_element_adapt_reg::lambda_w_grad

4.9.2.4 DVector<double> fm_learn_sgd_element_adapt_reg::mean_v

4.9.2.5 double fm_learn_sgd_element_adapt_reg::mean_w

4.9.2.6 double fm_learn_sgd_element_adapt_reg::reg_0

4.9.2.7 DMatrix<double> fm_learn_sgd_element_adapt_reg::reg_v

4.9.2.8 DVector<double> fm_learn_sgd_element_adapt_reg::reg_w

4.9.2.9 DVector<double> fm_learn_sgd_element_adapt_reg::sum_f

4.9.2.10 DVector<double> fm_learn_sgd_element_adapt_reg::sum_f_dash_f

4.9.2.11 Data* fm_learn_sgd_element_adapt_reg::validation

Reimplemented from **fm_learn** (p. 15).

4.9.2.12 DVector<double> fm_learn_sgd_element_adapt_reg::var_v

4.9.2.13 double fm_learn_sgd_element_adapt_reg::var_w

The documentation for this class was generated from the following file:

- /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/**fm_learn_sgd_element_adapt_reg.h**

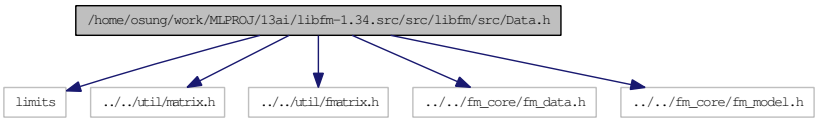
Chapter 5

File Documentation

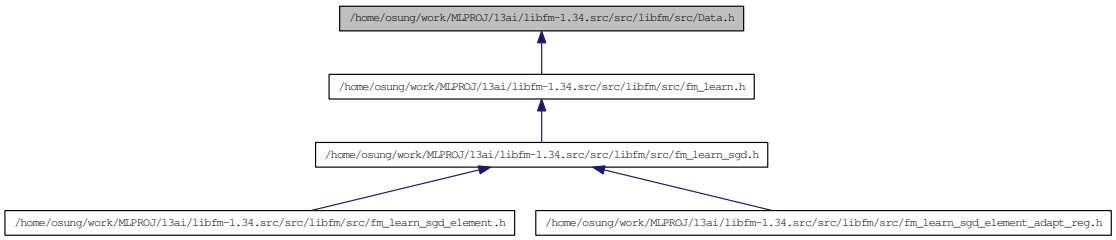
5.1 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/Data.h File Reference

```
#include <limits>
#include "../../util/matrix.h"
#include "../../util/fmatrix.h"
#include "../../fm_core/fm_data.h"
#include "../../fm_core/fm_model.h"
```

Include dependency graph for Data.h:



This graph shows which files directly or indirectly include this file:



Classes

- class **DataMetaInfo**
- class **Data**

Typedefs

- typedef FM_FLOAT **DATA_FLOAT**

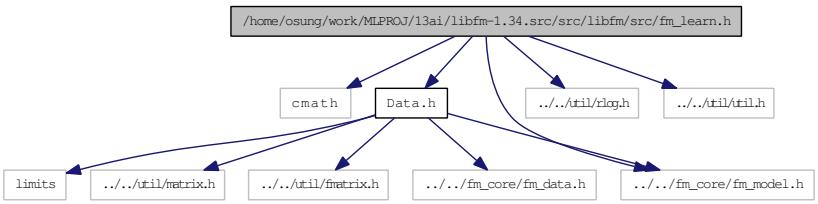
5.1.1 Typedef Documentation

5.1.1.1 typedef FM_FLOAT DATA_FLOAT

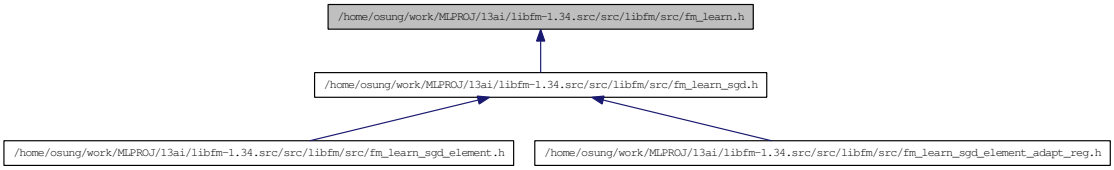
5.2 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/fm_learn.h File Reference

```
#include <cmath>
#include "Data.h"
#include "../../fm_core/fm_model.h"
#include "../../util/rlog.h"
#include "../../util/util.h"
```

Include dependency graph for fm_learn.h:



This graph shows which files directly or indirectly include this file:



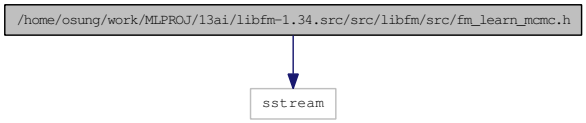
Classes

- class **fm_learn**

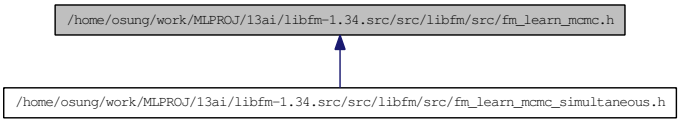
5.3 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/fm_learn_mcmc.h File Reference

```
#include <sstream>
```

Include dependency graph for fm_learn_mcmc.h:



This graph shows which files directly or indirectly include this file:



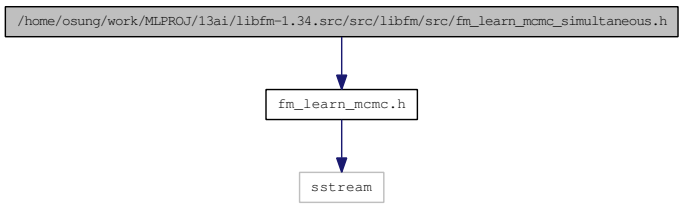
Classes

- struct **e_q_term**
- class **fm_learn_mcmc**

5.4 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/fm_learn_mcmc_simultaneous.h File Reference

```
#include "fm_learn_mcmc.h"
```

Include dependency graph for fm_learn_mcmc_simultaneous.h:



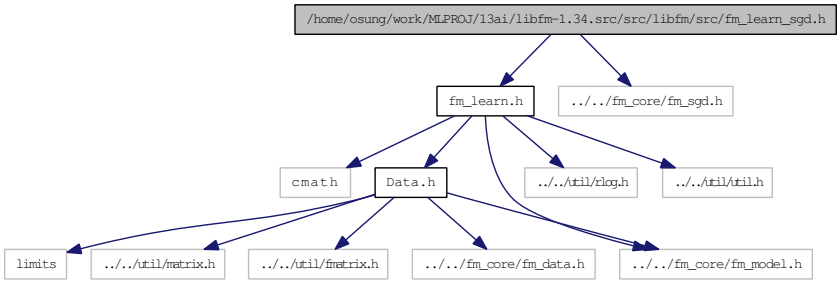
Classes

- class **fm_learn_mcmc_simultaneous**

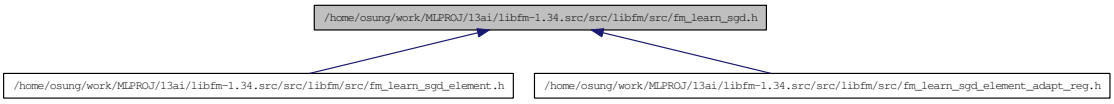
5.5 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/fm_learn_sgd.h File Reference

```
#include "fm_learn.h"
#include "../../fm_core/fm_sgd.h"
```

Include dependency graph for fm_learn_sgd.h:



This graph shows which files directly or indirectly include this file:



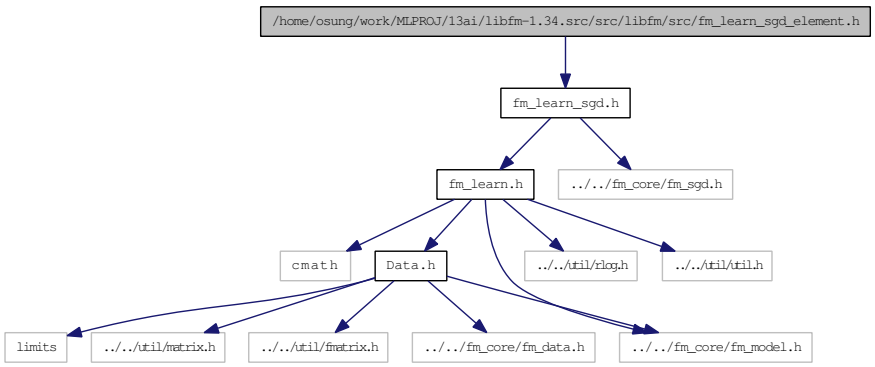
Classes

- class **fm_learn_sgd**

5.6 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/fm_learn_sgd_element.h File Reference

```
#include "fm_learn_sgd.h"
```

Include dependency graph for fm_learn_sgd_element.h:



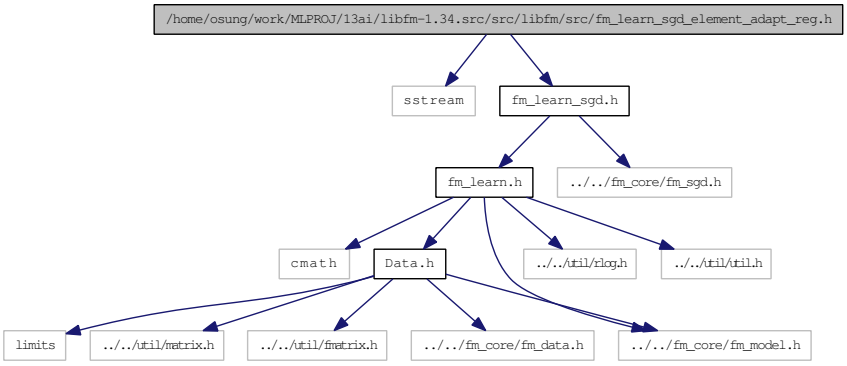
Classes

- class **fm_learn_sgd_element**

5.7 /home/osung/work/MLPROJ/13ai/libfm-1.34.src/src/libfm/src/fm_learn_sgd_element_adapt_reg.h File Reference

```
#include <sstream>
#include "fm_learn_sgd.h"
```

Include dependency graph for fm_learn_sgd_element_adapt_reg.h:



Classes

- class **fm_learn_sgd_element_adapt_reg**

Index