cnf

0.1

Generated by Doxygen 1.7.1

Sat Jul 24 2010 22:12:36

# **Contents**

1	Clas	s Index		1
	1.1	Class I	List	1
2	Clas	s Docu	mentation	3
	2.1	Alloc	Memdiscard Class Reference	3
		2.1.1	Detailed Description	3
		2.1.2	Constructor & Destructor Documentation	3
			2.1.2.1 AllocMemdiscard	3
	2.2	Learne	r < T > Class Template Reference	3
		2.2.1	Constructor & Destructor Documentation	4
			2.2.1.1 Learner	4
		2.2.2	Member Function Documentation	4
			2.2.2.1 init	4
			2.2.2.2 learn	4
			2.2.2.3 save	5
			2.2.2.4 setalpha	5
			2.2.2.5 setbound	5
			2.2.2.6 setcache	5
			2.2.2.7 setfbound	5
			2.2.2.8 setlabelcol	5
			2.2.2.9 setlambda	6
			2.2.2.10 setpenalty	6
			2.2.2.11 setpenalty	6
			2.2.2.12 setsbound	6
			2.2.2.13 setsqcol	6
	2.3	MyUti	l Class Reference	7
		2.3.1	Detailed Description	7
		232	Member Function Documentation	7

ii CONTENTS

		2.3.2.1	sqread	7
		2.3.2.2	sqread	7
2.4	Seque	nce Class 1	Reference	8
	2.4.1	Member	Function Documentation	8
		2.4.1.1	getRowSize	8
		2.4.1.2	getToken	8
		2.4.1.3	push	8
		2.4.1.4	setAllocSize	8
		2.4.1.5	setColSize	8
		2.4.1.6	setDelimit	9
2.5	Tagger	r < T > Cl	ass Template Reference	9
	2.5.1	Construc	ctor & Destructor Documentation	9
		2.5.1.1	Tagger	9
	2.5.2	Member	Function Documentation	9
		2.5.2.1	clear	9
		2.5.2.2	output	9
		2.5.2.3	read	10
		2.5.2.4	setcache	10
		2.5.2.5	setsqcol	10
		2.5.2.6	tagging	10
		2527	viterhi	10

# **Chapter 1**

# **Class Index**

### 1.1 Class List

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

AllocMemdiscard	3
$Learner < T > \dots \dots$	3
MyUtil	7
Sequence	8
$Tagger < T > \dots$	9

2 Class Index

## **Chapter 2**

## **Class Documentation**

#### 2.1 AllocMemdiscard Class Reference

#include <allocmd.h>

#### **Public Member Functions**

- AllocMemdiscard (size\_t)
- void \* alloc (size\_t)
- void reset ()

#### 2.1.1 Detailed Description

written by kei.uchiumi implementated Memory Discard Strategy Copyright (C) 2010- Kei Uchiumi

#### 2.1.2 Constructor & Destructor Documentation

#### 2.1.2.1 AllocMemdiscard::AllocMemdiscard ( size\_t heapsize )

Copyright (C) 2010- Kei Uchiumi

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

- lib/allocmd.h
- lib/allocmd.cpp

### **2.2** Learner < T > Class Template Reference

#### **Public Member Functions**

- Learner (const char \*tmpl, const char \*corpus, unsigned int poolsize)
- void learn (unsigned int iter, unsigned int reg)
- void save (const char \*save)

```
• bool init ()
• void setcache (unsigned int cachesize)
• void setpenalty (float w, float u, float t)
• void setpenalty (float bs, float us, float bf, float uf, float t)
• void setlabelcol (unsigned int labelcol)
• void setsqcol (unsigned int sqcolsize)
• void setbound (unsigned int bound)
• void setfbound (unsigned int fbound)
• void setsbound (unsigned int sbound)
• void setlambda (float lambda)
• void setalpha (float alpha)
template<>
  void setpenalty (float w, float u, float t)
• template<>
  void setpenalty (float bs, float us, float bf, float uf, float t)
• template<>
  void setbound (unsigned int bound)
template<>
  void setfbound (unsigned int fbound)
• template<>
  void setsbound (unsigned int sbound)
template<>
  void setalpha (float alpha)
```

template < class T > class Learner < T >

#### 2.2.1 Constructor & Destructor Documentation

2.2.1.1 template < class T > Learner < T >::Learner ( const char \* tmpl, const char \* corpus, unsigned int poolsize )

Construct Learner

#### **Parameters**

```
tmpl templatecorpus training-corpuspoolsize poolsize for allocator
```

#### 2.2.2 Member Function Documentation

#### 2.2.2.1 template < class T > bool Learner < T >::init ( )

Initialize

#### 2.2.2.2 template < class T > void Learner < T >::learn ( unsigned int iter, unsigned int reg )

Learn Model Parameters

#### **Parameters**

iter iteration
regularize 0:L1-regularization 1:L2-regularization

#### 2.2.2.3 template<class T > void Learner< T >::save ( const char \* save )

Save Model Parameters

#### **Parameters**

save modelfile

#### 2.2.2.4 template < class T > void Learner < T >::setalpha ( float alpha )

Set Alpha parameter for detecting learning-rate eta

#### **Parameters**

alpha alpha

#### 2.2.2.5 template < class T > void Learner < T >::setbound (unsigned int bound)

Set threshold of cut-off for feature

#### **Parameters**

bound NUM

#### 2.2.2.6 template<class T > void Learner< T >::setcache ( unsigned int cachesize )

Set cachesize

#### **Parameters**

cache cachesize

#### 2.2.2.7 template<class T > void Learner< T >::setfbound ( unsigned int *fbound* )

Set threshold of cut-off for token feature

#### **Parameters**

bound NUM

#### 2.2.2.8 template < class T > void Learner < T >::setlabelcol (unsigned int labelcol)

Set label-col in sequence

#### **Parameters**

labelcol labelcol

#### 2.2.2.9 template < class T > void Learner < T >::setlambda ( float lambda )

Set Lambda parameter for detecting learning-rate eta

#### **Parameters**

lambda lambda

## 2.2.2.10 template<class T > void Learner< T >::setpenalty ( float bs, float us, float bf, float uf, float t)

Set penalty parameters

#### **Parameters**

bs penalty parameter for transition-feature of segment

us penalty parameter for observed-feature of segment

bf penalty parameter for transition-feauture of token

uf penalty parameter for observed-feauture of token

t penalty parameter for gate-function

#### 2.2.2.11 template < class T > void Learner < T >::setpenalty (float w, float u, float t)

Set penalty parameters

#### **Parameters**

- w penalty parameter for observed-feature
- **u** penalty parameter for transition-feauture
- t penalty parameter for gate-function

#### 2.2.2.12 template < class T > void Learner < T >::setsbound (unsigned int sbound)

Set threshold of cut-off for segment feature

#### **Parameters**

bound NUM

#### $\textbf{2.2.2.13} \quad template < class \ T > void \ Learner < T > :: setsqcol \ ( \ unsigned \ int \ \textit{sqcolsize} \ )$

Set colsize of sequence

#### **Parameters**

colsize colsize of sequence

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

• src/learner.hpp

### 2.3 MyUtil Class Reference

```
#include <myutil.h>
```

#### **Static Public Member Functions**

- static bool **IsEOS** (const char \*str)
- static bool **IsEOS** (std::string &s)
- static void **chomp** (char \*str)
- static void **chomp** (std::string &s)
- static unsigned int **getByteUtf8** (const char \*p)
- static void **push** (int c, char \*\*s)
- static void **itoalter** (int n, char \*\*s)
- static void itoa (int n, char \*s)
- static bool **IsCommentOut** (const char \*str)
- static void sqread (FILE \*fp, Sequence \*s, unsigned int bufsize)
- static void sqread (std::ifstream &in, Sequence \*s)

#### 2.3.1 Detailed Description

written by kuchiumi util class for folos crf

#### 2.3.2 Member Function Documentation

#### 2.3.2.1 static void MyUtil::sqread ( std::ifstream & in, Sequence \* s ) [inline, static]

read sequence function

#### **Parameters**

```
in ifstream
```

sq Sequence

## 2.3.2.2 static void MyUtil::sqread ( FILE \* fp, Sequence \* s, unsigned int bufsize ) [inline, static]

read sequence function

#### **Parameters**

```
fp FILE pointer
sq Sequence
bufsize buffer size
```

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

• lib/myutil.h

### 2.4 Sequence Class Reference

#### **Public Member Functions**

```
• int dump ()
```

- int push (const char \*str)
- int clear ()
- unsigned int getRowSize ()
- char \* getToken (int row, int col)
- int setDelimit (const char \*delimit)
- int **init** ()
- int setAllocSize (unsigned int allocsize)
- int setColSize (unsigned int colsize)

#### **2.4.1** Member Function Documentation

#### 2.4.1.1 unsigned int Sequence::getRowSize ( )

#### **Parameters**

```
[out] rowsize
```

#### 2.4.1.2 char \* Sequence::getToken (int row, int col)

#### **Parameters**

```
[in] row
[in] col
[out] char*
```

#### 2.4.1.3 int Sequence::push ( const char \* str )

#### **Parameters**

```
[in] str
```

#### 2.4.1.4 int Sequence::setAllocSize (unsigned int allocsize)

#### **Parameters**

```
[in] allocsize
```

#### 2.4.1.5 int Sequence::setColSize (unsigned int colsize)

#### **Parameters**

[in] colsize

#### 2.4.1.6 int Sequence::setDelimit ( const char \* delimit )

#### **Parameters**

```
[in] delimit
```

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

- lib/sequence.h
- lib/sequence.cpp

### **2.5** Tagger < T > Class Template Reference

#### **Public Member Functions**

- Tagger (const char \*tmpl, unsigned int poolsize)
- void read (const char \*model)
- void tagging (const char \*corpus)
- void viterbi (Sequence \*s, AllocMemdiscard \*cache, std::vector< int > &labels)
- void output (Sequence \*s, std::vector< int > &labels)
- void setcache (unsigned int cachesize)
- void setsqcol (unsigned int sqcolsize)
- void clear ()
- template<> void clear ()

template<class T> class Tagger< T>

#### 2.5.1 Constructor & Destructor Documentation

#### 2.5.1.1 template < class T > Tagger < T >:: Tagger ( const char \* tmpl, unsigned int poolsize )

Construct Tagger

#### **Parameters**

```
tmpl template
poolsize poolsize for allocator
```

#### 2.5.2 Member Function Documentation

#### 2.5.2.1 template < class T > void Tagger < T >::clear (

Clear model parameter

# 2.5.2.2 template < class T > void Tagger < T >::output ( Sequence \* s, std::vector < int > & labels )

Output labeled-sequence

#### **Parameters**

```
s sequence
```

labels vector stored labels

#### 2.5.2.3 template < class T > void Tagger < T >::read ( const char \* model )

Read Modelfile

#### **Parameters**

model modelfile

#### 2.5.2.4 template < class T > void Tagger < T >::setcache (unsigned int cachesize)

Set cachesize

#### **Parameters**

cache cachesize

#### 2.5.2.5 template<class T > void Tagger< T >::setsqcol ( unsigned int sqcolsize )

Set colsize of sequence

#### **Parameters**

colsize colsize of sequence

#### 2.5.2.6 template<class T > void Tagger< T >::tagging ( const char \* corpus )

Tagging to corpus

#### **Parameters**

corpus test-corpus

## 2.5.2.7 template < class T > void Tagger < T >::viterbi ( Sequence \* s, AllocMemdiscard \* cache, std::vector < int > & labels )

Predict Tags and set to labels

#### **Parameters**

```
s target sequence
```

cache cache

labels vector to store predicted labels

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

• src/tagger.hpp

# **Index**

AllocMemdiscard, 3  clear Tagger, 9  getRowSize Sequence, 8 getToken Sequence, 8  init Learner, 4  learn Learner, 4  learner, 3  init, 4  learner, 4  learner, 4  Learner, 4  save, 5  setalpha, 5  setbound, 5  settalpha, 5  settound, 5  settabelool, 5  settabelool, 5  settabelool, 5  settabelool, 5  settabelool, 5  settabelool, 5  settambda, 5  settlambda, 5  settlambda  Learner, 5  settlambda  Learner, 6  setsbound  Learner, 6  setsbound  Tagger, 10  Tagger, 9  push Sequence, 8  read Tagger, 10  setsecache  Sequence, 8  read Tagger, 10  setsecole  Tagger, 9  save Learner, 5  viterbi, 10  viterbi, 10	AllocMemdiscard, 3	getRowSize, 8
clear Tagger, 9 getRowSize Sequence, 8 getToken Sequence, 8 init Learner, 4 learner, 4 learner, 4 learner, 3 init, 4 learner, 5 setalpha, 5 setalpha, 5 setalpha, 5 setalpha, 5 settbound, 5 settabelcol, 5 settbound, 5 settabelcol, 5 settbound, 5 settabelcol, 6 setsbound, 6 setspound, 6 setspound, 6 setspound, 6 setspound, 7 setalpha, 7 sqread, 7 output Tagger, 9 push Sequence, 8 setAllocSize, 8 setAllocSize, 8 setAllocSize Sequence, 8 setalpha Learner, 5 setalpha Learner, 5 setcache Learner, 5 setpound Learner, 5 setDelimit Sequence, 8 setFbound Learner, 5 setalbelcol Learner, 5 setlambda Learner, 5 setlambda Learner, 6 setsbound Learner, 6 setsbound Setspound Learner, 6 setalpha Learner, 5 setlambla Learner, 6 setalpha Learner, 5 setlambla Learner, 6 setalpha Learner, 6 setlambla Learner, 6 setalpha Learner, 6 setlambla Learner, 6 setlambla Learner, 6 setl		_
clear Tagger, 9 getRowSize Sequence, 8 getToken Sequence, 8 init Learner, 4 learn Learner, 4 learner, 3 init, 4 learner, 4 learner, 4 learner, 4 learner, 4 save, 5 setalpha, 5 setbound, 5 setalbound, 5 setbelimit, 8 setDelimit, 8 setAllocSize Sequence, 8 setAllocSize Sequence, 8 setAllocSize Sequence, 8 setalpha Learner, 5 setbound Learner, 5 setbound Learner, 5 Tagger, 10 setColSize Sequence, 8 setDelimit Learner, 5 setDelimit Sequence, 8 setDelimit Learner, 5 setDelimit Learner, 5 setDelimit Sequence, 8 setDelimit Learner, 5 setDelimit Sequence, 8 setalpha Learner, 5 setDelimit Sequence, 8 setAllocSize, 8 setalpha Learner, 5 setbound Learner, 6 setschound Learner, 6 setspenalty, 6 setbound Learner, 6 setspenalty, 6 setbound Learner,	,	_
Tagger, 9  getRowSize     Sequence, 8  getToken     Sequence, 8  getToken     Sequence, 8  init     Learner, 4  learn     Learner, 4  Learner, 3      init, 4     learn, 4     learn, 4     Learner, 4  Learner, 5  setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 5     setalpha, 6     setsedned, 6  Setynence, 8  setPelimit  Learner, 6  Sequence, 8  setBound  Learner, 5  setBound  Learner, 5  setBound  Learner, 6  setsdecol  Learner, 6  setJelimit  Sequence, 8  setDelimit  Learner, 5  setLambla  Learner, 5  setIambla  Learner, 5  setlabelcol  Learner, 5  setlambda  Learner, 6  setspenalty  Learner, 6  setspenalty  Learner, 6  setspenalty  Learner, 6  setspenalty  Tagger, 10  sqread  MyUtil, 7  Tagger, 9  push  Sequence, 8  output, 9  read, 10  read  Tagger, 10  setsqcol, 10  Tagger, 9  tagging, 10  viterbi, 10	clear	•
getRowSize Sequence, 8 getToken Sequence, 8 Setalpha Learner, 5 Setcache Learner, 5 Tagger, 10 SetColSize Sequence, 8 Setalpha Learner, 5 Tagger, 10 SetColSize Sequence, 8 SetDelimit Sequence, 8 Sequence, 8 SetDelimit Sequence, 8 Sequence, 8 SetDelimit Sequence, 8 SetDelimit Sequence, 8 SetDelimit Sequence, 8 Sequence, 8 SetDelimit Sequence, 8 Setalpha Sequence, 8 Setache Learner, 5 SetDelimit Sequence, 8 Sequence, 8 Setalpha Sequence, 8 Setache Learner, 5 Setabound Learn	Tagger, 9	
getRowSize Sequence, 8 getToken Sequence, 8 Setalpha Learner, 5 Setbound Learner, 5 Setcache Learner, 6 Learner, 3 SetColSize Sequence, 8 Sequence, 8 Sequence, 8 SetDelimit Sequence, 8 SetDelimit Sequence, 8 SetBound Learner, 5 SetBound Learner, 6 SetSbound Learner, 6 SetSbound MyUtil, 7 Sequence, 8 SetBound SetSpenalty Learner, 6 SetSpenalty Learner, 5 SetImbalte Sequence, 8 SetTlearner, 5 SetImbalte Sequence, 8 SetTlearner, 5 SetImbalte Sequence, 8 SetImbalte		
Sequence, 8 getToken Sequence, 8 setalpha Learner, 5 setbound Learner, 5 setcache Learner, 4 Learner, 3 init, 4 learn, 4 Learner, 4 Learner, 4 Learner, 4 Learner, 5 setcolsize Sequence, 8 setDelimit Sequence, 8 setDelimit Sequence, 8 setBound Learner, 5 setalpha, 5 setalpha, 5 setalpha, 5 setalpha, 5 setalpha, 5 setbound, 5 setalbelcol, 5 settabelcol, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8 read Tagger, 10 setalpha Learner, 5 setalpha Learner, 5 setplenimt Sequence, 8 settbound Learner, 5 setlambda Learner, 5 setpenalty Learner, 6 setsbound Learner, 6 setsdound Learner, 6 setsqcol Tagger, 9 output Tagger, 9 sequence, 8 read Tagger, 10 setcache, 10 setcache, 10 setaggin, 10 viterbi, 10	getRowSize	
getToken Sequence, 8 Sequence, 8 Sequence, 8 Setalpha Learner, 5 Setbound Learner, 5 Setcache Learner, 4 Learner, 3 SetColSize Sequence, 8 SetBelimit Sequence, 8 SetDelimit Sequence, 8 SetBound Learner, 5 SetColSize Sequence, 8 Sequence, 8 SetBelimit Sequence, 8 SetBelimit Sequence, 8 SetBound Learner, 5 SetBound Learner, 5 SetBound Learner, 5 SetBound Learner, 5 SetBabelcol SetLambda Learner, 5 SetLambda Learner, 5 SetLambda SetLearner, 6 SetSebound, 6 SetSebound, 6 SetSebound SetSepenalty Learner, 6 SetSepond MyUtil, 7 Sequence, 8 SetSepond MyUtil, 7 Sequence, 8 Sequence, 8 SetSepond Set	Sequence, 8	
Sequence, 8  Learner, 5 setbound  Learner, 5 setcache  Learner, 6 Learner, 7  Learner, 8  Learner, 9  Learner, 9  Learner, 9  Learner, 9  Learner, 9  Learner, 9  Sequence, 8 setColSize  Sequence, 8 setDelimit Sequence, 8 setBelimit Sequence, 8 setfbound Learner, 5 setalpha, 5 setalpha, 5 setalpha, 5 setalbound, 5 setalbound, 5 setlambda, 5 setlambda, 5 setlambda, 5 setlambda, 5 setlambda, 6 setspound, 6 setspound, 6 setspound, 6 setspound  Learner, 5		•
init Learner, 4  Learner, 4  learn Learner, 4  Learner, 5  setcache  Learner, 5  Tagger, 10  setColSize  Sequence, 8  setDelimit  Sequence, 8  setBound  Learner, 4  Learner, 4  Learner, 4  setDelimit  Sequence, 8  setfbound  Learner, 5  setalpha, 5  setalpha, 5  setbound, 5  setsebound, 5  settabelcol  settabelcol, 5  setlambda  Learner, 5  setlambda  Learner, 5  setlambda  Learner, 5  setlambda  Learner, 6  setsbound, 6  setsbound, 6  setspenalty, 6  setsbound, 6  setsqcol, 6  MyUtil, 7  Tagger, 9  push Sequence, 8  read  Tagger, 10  setsacol, 10  Tagger, 9  save  Learner, 5  setbound  Learner, 6  setspound  Learner, 6  setspound  Tagger, 9  output  Tagger, 9  output, 9  read, 10  setsacol, 10  Tagger, 9  tagging, 10  viterbi, 10	•	_
init Learner, 4  Learner, 5  setcache  Learner, 5  Tagger, 10  setColSize  Sequence, 8  setDelimit  Sequence, 8  setBound, 5  setalpha, 5  setbound, 5  settabelcol, 5  setlabelcol, 5  setlambda, 5  setlambda, 5  setpenalty, 6  setsbound, 6  setspound, 6  setspound, 7  sqread, 7  output  Tagger, 9  push  Sequence, 8  read  Tagger, 10  save  Learner, 5  setcache  Learner, 5  setlambda  Learner, 6  setsbound  Learner, 6  setspound  Learner, 6  setspound  Tagger, 9  push  Sequence, 8  read  Tagger, 10  save  Learner, 5  setlambda  Learner, 6  setsbound  Learner, 6  setspound  Learner, 6  setsqcol  Tagger, 9  output  Tagger, 9  output, 9  read, 10  setsacol, 10  Tagger, 9  tagging, 10  viterbi, 10	1	
Learner, 4  learn  Learner, 4  Learner, 3  init, 4  learn, 4  Learner, 4  Learner, 4  Learner, 4  setColSize  Sequence, 8  setDelimit  Sequence, 8  setfbound  Learner, 5  setalpha, 5  setalpha, 5  setbound, 5  setcache, 5  setfbound, 5  setlabelcol  setlabelcol, 5  setlabelcol, 5  setlambda, 5  setlambda  Learner, 5  setlambda  Learner, 5  setlambda  Learner, 6  setsbound, 6  setsbound, 6  setspenalty, 6  setsbound  Learner, 6  setspenalty  Learner, 6  setsqcol  MyUtil, 7  sqread, 7  output  Tagger, 9  push  Sequence, 8  read  Tagger, 10  setsqcol, 10  Tagger, 9  setalpelcol  Tagger, 9  setalpelcol  setalpelcol  Tagger, 9  setalpelcol  setalpelcol  Tagger, 9  setalpelcol  setalpelcol  Tagger, 9  setalpelcol  setalpelcol  Learner, 6  setspenalty  Learner, 6  setspenalty  Learner, 6  setsqcol  Tagger, 10  sqread  MyUtil, 7  Tagger, 9  output, 9  read, 10  setsqcol, 10  Tagger, 9  tagging, 10  viterbi, 10	init	
learn Learner, 4 Learner, 3 init, 4 learn, 4 Learner, 4 save, 5 setalpha, 5 setbound, 5 setlabelcol, 5 setlambda, 5 setlambda, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsquel, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10  Learner, 5 Tagger, 10 setcache, 5 setlambda Learner, 5 setlabelcol Learner, 5 setpenalty Learner, 6 setsbound Learner, 6 setsbound Learner, 6 setsdered  Tagger, 9  Tagger, 9  Tagger, 9  push Sequence, 8  read Tagger, 10 setsqcol, 10 Tagger, 9 save Learner, 5 setcache, 8 setpenalty Learner, 6 setsqcol Learner, 9 output, 9 read, 10 setsqcol, 10 Tagger, 9 tagging, 10 viterbi, 10	Learner, 4	
Learner, 4 Learner, 3     init, 4     learn, 4 Learner, 4     Learner, 4     setDelimit     Sequence, 8     setBound     Learner, 5     setalpha, 5     setabound, 5     settabelcol     settabelcol, 5     setlambda, 5     setlambda, 5     setpenalty, 6     setsbound, 6     setsqcol, 6  MyUtil, 7     sqread, 7  push     Sequence, 8  read     Tagger, 10     setColSize     Sequence, 8     setDelimit     Sequence, 8     setfbound     Learner, 5     setlabelcol     Learner, 5     setlabelcol     Learner, 5     setlambda     Learner, 6     setsbound     Learner, 6     setsbound     Learner, 6     setsqcol     MyUtil, 7     sqread, 7  Tagger, 9  push     Sequence, 8  read     setacche, 10     setsqcol, 10     Tagger, 9     save     tagging, 10     viterbi, 10		
Learner, 4  Learner, 3  init, 4  learn, 4  Learner, 4  setDelimit  Sequence, 8  setBound  Learner, 5  setalpha, 5  setalpha, 5  setsbound, 5  settlabelcol  Learner, 5  setlambda  Learner, 5  setlambda, 5  setpenalty, 6  setsbound, 6  setspenalty, 6  setspenalty  Learner, 6  setspenalty  Learner, 6  setspenalty  Tagger, 10  sqread  output  Tagger, 9  push  Sequence, 8  read  Tagger, 10  setsqcol, 10  Tagger, 9  save  tagging, 10  viterbi, 10	learn	
init, 4 learn, 4 learn, 4 Learner, 4 save, 5 setalpha, 5 setbound, 5 settabelcol, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsquence, 6 setsquence, 8 setpenalty Learner, 5 setbound Learner, 5 setlambda Learner, 5 setlambda Learner, 6 setsbound Learner, 6 setsbound Learner, 6 setsquence, 8  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10 save Learner, 5 setupelmit Sequence, 8 setfbound Learner, 5 setlabelcol Learner, 6 setswound Learner, 6 setsquence, 8 setpenalty Learner, 6 setsquence, 8 setsquence, 8  Tagger, 10 sqread Output, 9 read, 10 setsquence, 8 setplelmit Sequence, 8 setplelmit Sequence, 8 setplelmit Sequence, 8 setplelmit Sequence, 8 setplemit Sequence, 9 setplemit Sequence, 8 setplemit Sequence, 9 setplemit Sequence, 9 setplemit Sequ	Learner, 4	
init, 4 learn, 4 Learner, 4 save, 5 setalpha, 5 setbound, 5 setcache, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8 setDelimit Sequence, 8 setfbound Learner, 5 setlabelcol Learner, 5 setlambda Learner, 6 setsbound Learner, 6 setsbound Learner, 6 setsqcol MyUtil, 7 Tagger, 9  push Sequence, 8  read Tagger, 10 setsqcol, 10 Tagger, 9 save Learner, 5 setlambda Learner, 6 setspenalty Learner, 6 setspenalty Tagger, 10 sqread MyUtil, 7  Tagger, 9 output, 9 read, 10 setsqcol, 10 Tagger, 9 tagging, 10 viterbi, 10	Learner, 3	
learn, 4 Learner, 4 save, 5 setalpha, 5 setbound, 5 setcache, 5 setfbound, 5 setlabelcol, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10 save Learner, 5 setDenimt Sequence, 8 setDenimt Sequence, 8 setDenimt Sequence, 8 setBenimt Learner, 5		-
Learner, 4 save, 5 setalpha, 5 setbound, 5 setcache, 5 setfbound, 5 setlabelcol Learner, 5 setlambda Learner, 5 setlambda, 5 setlambda, 5 setlambda, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10 save Learner, 5 setlambda Learner, 6 setsbound Learner, 6 setsbound Learner, 6 setsqcol Tagger, 10 sqread MyUtil, 7  Tagger, 9 read, 10 setsqcol, 10 Tagger, 9 save Learner, 5 viterbi, 10		
save, 5 setalpha, 5 setalpha, 5 setbound, 5 setcache, 5 setfbound, 5 setlabelcol, 5 setlabelcol, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  push Sequence, 8  read Tagger, 10 save Learner, 5 setlabelcol Learner, 5 setlambda Learner, 6 setswellambda Learner, 9 setswellambda Learner, 10 setsqcol Tagger, 9 tagging, 10 viterbi, 10		=
setalpha, 5 setbound, 5 setcache, 5 setfbound, 5 setfbound, 5 setfbound, 5 setlabelcol, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setspound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10 save Learner, 5 setlambda Learner, 5 setlambda Learner, 6 setspound Learner, 6 setspound Learner, 6 Tagger, 10 sqread MyUtil, 7  Tagger, 9 clear, 9 output, 9 read, 10 setsqcol, 10 Tagger, 9 save tagging, 10 viterbi, 10	save, 5	
setbound, 5 setcache, 5 setfbound, 5 setlabelcol, 5 setlambda, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setspound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  Tagger, 9  push Sequence, 8  read Tagger, 10 save Learner, 5 setlambda Learner, 5 setpenalty Learner, 6 setsbound Learner, 6 setsqcol  MyUtil, 7 Tagger, 9 clear, 9 output Tagger, 9 read, 10 setsqcol, 10 Tagger, 9 setcache, 10 setsqcol, 10 Tagger, 9 setagging, 10 viterbi, 10		
setcache, 5 setfbound, 5 setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10  Tagger, 10  save Learner, 5 setlambda Learner, 5 setpenalty Learner, 6 setsbound Learner, 6 setsqcol MyUtil, 7 Tagger, 9 Tagger, 9 output, 9 read, 10 setsqcol, 10 Tagger, 9 setuence, 8  read Setcache, 10 setsqcol, 10 Tagger, 9 tagging, 10 viterbi, 10		
setfbound, 5 setlabelcol, 5 setlambda, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10  Tagger, 10  setsqcol, 10 Tagger, 9  setuambda Learner, 5 setpenalty Learner, 6 setsbound Learner, 6 Tagger, 10 sqread MyUtil, 7 Tagger, 9 clear, 9 output, 9 read, 10 setsqcol, 10 Tagger, 9 save tagging, 10 viterbi, 10	•	
setlabelcol, 5 setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10  read Tagger, 10  save Learner, 5 setpenalty Learner, 6 setsbound Learner, 6 Tagger, 10 sqread MyUtil, 7 Tagger, 9 clear, 9 output, 9 read, 10 setsqcol, 10 Tagger, 9 setsqcol, 10 Tagger, 9 tagging, 10 viterbi, 10		
setlambda, 5 setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10 Tagger, 10  setsqcol, 10 Tagger, 10 setsqcol, 10 Tagger, 9 read, 10 setsqcol, 10 Tagger, 9 tagging, 10 viterbi, 10		
setpenalty, 6 setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10  read Tagger, 10  setsqcol, 6  Learner, 6 setsqcol Learner, 6 setsqcol MyUtil, 7 Tagger, 9 clear, 9 output, 9 read, 10 setcache, 10 setsqcol, 10 Tagger, 9 tagging, 10 save Learner, 5		
setsbound, 6 setsqcol, 6  MyUtil, 7 sqread, 7  output Tagger, 9  push Sequence, 8  read Tagger, 10  setsqcol Learner, 6 Tagger, 10 sqread MyUtil, 7  Tagger, 9  clear, 9  output, 9  read, 10 setsqcol, 10 Tagger, 10  setsqcol, 10 Tagger, 9  viterbi, 10		Learner, 6
setsqcol, 6  MyUtil, 7	÷ •	setsbound
MyUtil, 7		Learner, 6
MyOth, 7       Tagger, 10         sqread, 7       sqread         output       MyUtil, 7         Tagger, 9       clear, 9         push       clear, 9         sequence, 8       output, 9         read       setcache, 10         Tagger, 10       setsqcol, 10         Tagger, 9       tagging, 10         Learner, 5       viterbi, 10	scisqeoi, o	setsqcol
sqread, 7  output  Tagger, 9  push  Sequence, 8  read  Tagger, 9  read  Tagger, 9  output, 9  read, 10  Tagger, 10  setcache, 10  Tagger, 10  setsqcol, 10  Tagger, 9  tagging, 10  Learner, 5	MvIItil 7	Learner, 6
output MyUtil, 7  Tagger, 9  push clear, 9  sequence, 8  read setcache, 10  Tagger, 10  Tagger, 9  read, 10  read setcache, 10  Tagger, 9  setsqcol, 10  Tagger, 9  tagging, 10  Learner, 5  viterbi, 10	•	Tagger, 10
Tagger, 9  push clear, 9  Sequence, 8  read setcache, 10  Tagger, 10  Tagger, 9  read, 10  Tagger, 10  Tagger, 10  Tagger, 10  Tagger, 9  tagging, 10  Learner, 5	sqreau, 7	sqread
Tagger, 9  push Sequence, 8  read Tagger, 10  Tagger, 9  output, 9  read, 10  setcache, 10  Tagger, 10  Tagger, 9  save tagging, 10  Learner, 5  Tagger, 9  viterbi, 10	output	MyUtil, 7
Tagger, 9  push Sequence, 8 Sequence, 8  read Tagger, 10  Tagger, 10  Setsqcol, 10  Tagger, 9  save tagging, 10  Learner, 5  Tagger, 9  viterbi, 10	=	
Sequence, 8 output, 9 read, 10 read setcache, 10 Tagger, 10 setsqcol, 10 Tagger, 9 tagging, 10 Learner, 5 viterbi, 10	rugger, y	Tagger, 9
Sequence, 8 output, 9 read, 10 read, 10  read setcache, 10 setsqcol, 10 Tagger, 9 tagging, 10  Learner, 5 viterbi, 10	nush	clear, 9
read, 10 read setcache, 10 Tagger, 10 save tagging, 10 Learner, 5 read, 10 setcache, 10 Tagger, 9 tagging, 10 viterbi, 10	1	output, 9
Tagger, 10 setsqcol, 10 Tagger, 9 save tagging, 10 Learner, 5 viterbi, 10	Sequence, o	read, 10
Tagger, 9 save tagging, 10 Learner, 5 viterbi, 10	read	setcache, 10
Tagger, 9 save tagging, 10 Learner, 5 viterbi, 10	Tagger, 10	setsqcol, 10
save tagging, 10 Learner, 5 viterbi, 10	<i>CC</i> /	=
Learner, 5 viterbi, 10	save	
	Learner, 5	
Sequence, 8 tagging	Sequence, 8	tagging

12 INDEX

Tagger, 10

viterbi

Tagger, 10