# **Neuron Class Reference**

Neuron Class. More...

#include <neuron.h>

# **Public Member Functions**

	Neuron () Default constructer.
	<b>Neuron</b> (double *w, double Ir, double *inp, double *out, double error, int inpDim, int sampleSize) Create neuron instance and set following parameters. More
	~Neuron () Destructor.
void	Configure (int dim, int sampleSize) Set input dimension and number of samples. More
void	setWeights (double *w) set weights More
void	randomWeights () set weights with random values
void	setInputs (double *value) set input vector More
double *	getOutputs () const returns output vector More
void	setOutputs (double *value) set output vector More
double	getLr () const returns learning rate More
void	setLr (double value) set learning rate More
double *	getWeights () const returns current weights More
void	perceptronRule () train neuron with discrete function, The function is bipolar signum
void	deltaRule () train neuron with continuous function, The function is bipolar sigmoid

```
double getError () const
returns error rate More...

void setError (double value)
set error rate More...

int getHowManyCycle () const
returns number of cycles in training More...
```

# **Detailed Description**

**Neuron** Class.

## Constructor & Destructor Documentation

Create neuron instance and set following parameters.

#### **Parameters**

w weigth vectorIr learning rateinp input vector

out output vector, {1,1,-1} 1 and -1 are different classes

**error** error rate

inpDim dimension of inputssampleSize number of samples

## **Member Function Documentation**

```
◆ Configure()
```

Set input dimension and number of samples.

### **Parameters**

dim input dimesionsampleSize number of samples

◆ getError()

double Neuron::getError ( ) const

returns error rate

#### **Returns**

double

◆ getHowManyCycle()

int Neuron::getHowManyCycle ( ) const

returns number of cycles in training

#### **Returns**

int

◆ getLr()

```
double Neuron::getLr ( ) const

returns learning rate

Returns

double
```

◆ getOutputs()

```
double * Neuron::getOutputs ( ) const
```

returns output vector

### **Returns**

double

◆ getWeights()

```
double * Neuron::getWeights ( ) const
```

returns current weights

### **Returns**

double pointer of weight array

◆ setError()

```
void Neuron::setError ( double value )
```

set error rate

### **Parameters**

value

◆ setInputs()

```
void Neuron::setInputs ( double * value )

set input vector

Parameters

value pointer of input vector
```

◆ SetLr()

void Neuron::setLr ( double value )

set learning rate

Parameters
 value

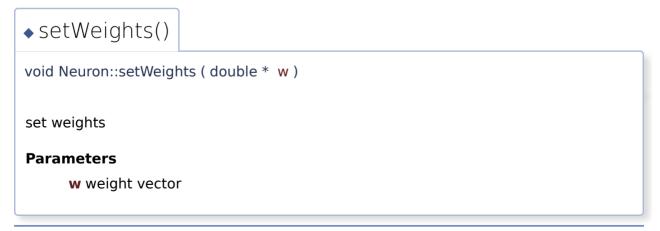
◆ setOutputs()

void Neuron::setOutputs ( double \* value )

set output vector

Parameters

value pointer of output vector



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

• neuron.h

• neuron.cpp

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